



THE MAGAZINE OF  
**Fantasy AND**

**Science Fiction**

APRIL

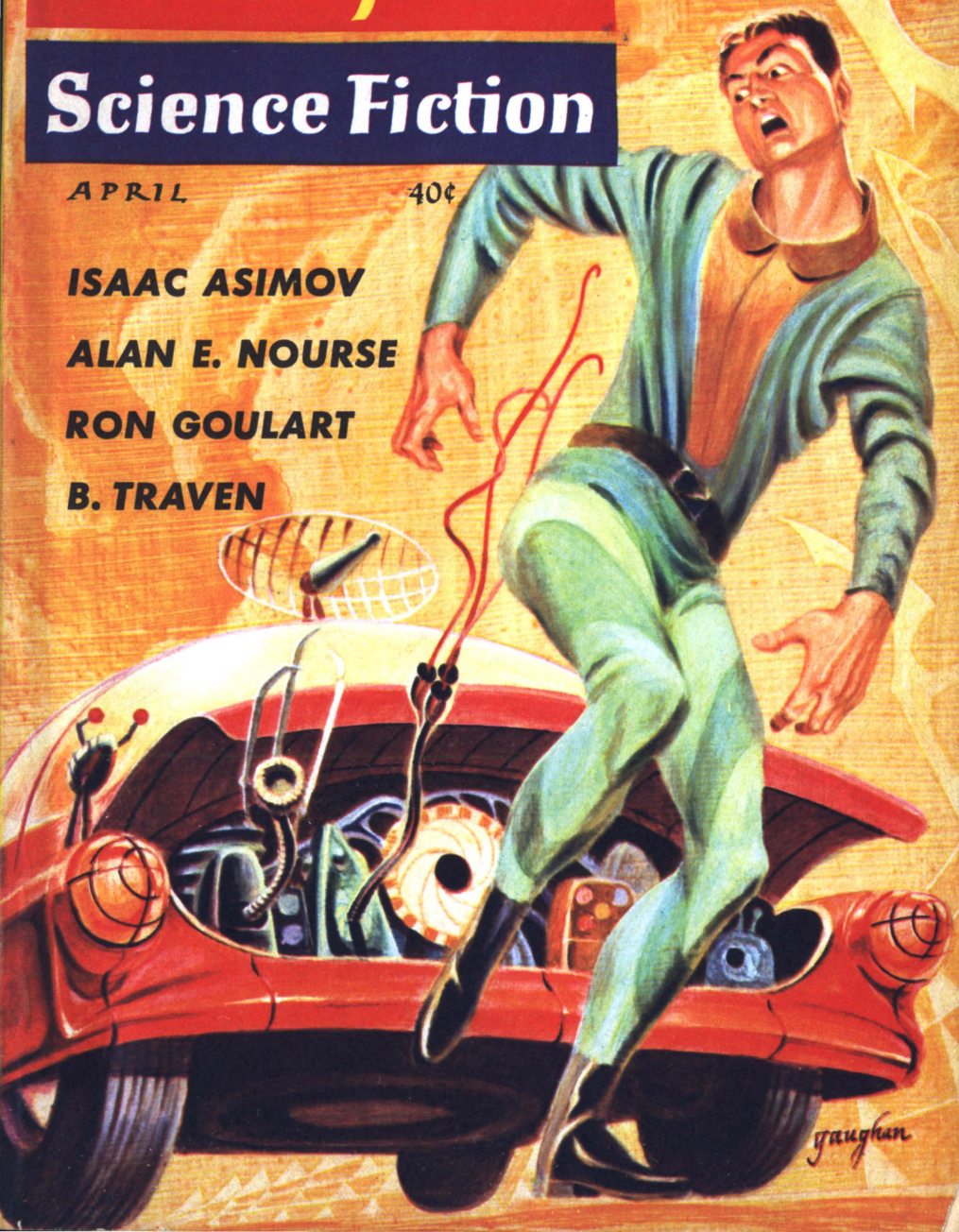
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**ISAAC ASIMOV**

**ALAN E. NOURSE**

**RON GOULART**

**B. TRAVEN**



# Fantasy and Science Fiction

APRIL

*Including Venture Science Fiction*

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*Cover by Jack Gaughan (illustrating "Into The Shop")*

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*"Ransom, James [our Official Report reads]. From Cleveland. Forty-one, married, five kids; wife a psychologist. One hitch, regular Navy, wartime. Editor, medical publishing firm, 10 years. Books on all medical surgical subjects for medical students and practicing physicians. AB, English, Stanford, '52. PhD, English Philology, Stanford, '62. Creative writing as undergraduate. Poetry prize, Novel, play (both bad), hundreds of short stories. Gave it up on entering graduate school. Spent ten years (while working full time) writing dissertation. When finished, was so used to working all spare time in an office rented for the purpose, just went back to writing. Sold the third thing to Esquire, sold soon after to Playboy and Sports Illustrated. Has written for TV, publishes also in Journal of the American Medical Association—humor and satire." Mr. Ransom's first F&SF story is neither humor nor satire. The despised rat, in many ways man's greatest enemy in the animal kingdom (spreader of plague, destroyer of millions of dollars in food each year), is ironically also in one specific way one of man's greatest friends. The Magazine has dealt before with the rat as a laboratory animal. Now Mr. Ransom makes a worthy addition. We are sure you will join us in expectantly waiting for more of his stories.*

## **FRED ONE**

**by James Ransom**

NIGHT FALLS IN CLINICAL LABORATORIES much the same as elsewhere. Shadows lengthen across tabletops. The furnace clears its heavy throat and rumbles complacently into being. Lights flash on and off and feet shuggle about, kicking wheeled buckets of Roccal disinfectant, as the mops flick back

and forth in the corridors quelling outbreaks of infectious riot like so many horses swatting flies. Long silences now—and darkness fitful with cold instrumental luminosities and the bewhiskered questing in confinement of a thousand tiny noses.

In Room 17B—Experimental

Psychology: Erwin Allen, Ph.D. —a rack of twelve cages on a wheeled flat has been rolled to the center of the floor from Breeding and Procurement in the subcellar. Each cage contains eight rats, mostly all white with pink tails and eyes but some of them brindled and a few "pintos" with rakish patches of black and brown in saddle or eye-shield distribution. Six of the cages are tagged "M" and six "F"—for male and female, which is to be the significant point of differentiation among the animals. No other differences are of interest—nor, indeed, would further differentiation be possible in the present state of these particular experimenters' knowledge of these particular rats. Among the rats themselves, however, individual differences are widely acknowledged.

The twelve cages are stacked up in three piles of four, like a cluster of apartment dwellings newly erected in the center of town. In the uppermost compartment of one pile a brindled male upright along the grill-work sidesteps neatly to the corner, completing an unsatisfactory surveillance of the dim laboratory, and hustles across drowsing bodies to a crouched white resting easily on all fours in the centermost corner of the three stacks of life.

"Fred One?"

"What is it?" the white murmurs softly, as if not to wake what-

ever sleepers there may be among them.

"I can't see anything yet. Are you Fred One?"

"Yes."

"I'm Fred Three, but I guess I'm Two if that's all right. I don't think there's a Two in any of the cages."

"Did you try to find out?"

"Yes. Hell, I'm not bucking for anything."

"All right, you're Two, then. What does it look like out there?"

"I can't see. Just a bare lab, for all I can tell. I lost track of the turns on the way up and I'm not sure which side of the building we're on now. Maybe the moon will help."

"Or the sun, of course."

"No, I doubt if the sun will help." Fred Three—now Fred Two—flicked his whiskers in a fierce gesture and threw himself down on all fours at a discreet distance from One. "I've heard of you," he said.

Fred One gave a mental shrug and glanced with fleeting concern at Two crouched nervously alert among the shredded headlines of the nest. One of those bitter ones, he concluded—or rather Twos, he corrected himself with that scrupulous linguistic honesty that was more a source of annoyance to him than of pride and comfort. He would have to work on Two if he expected to be any good to the others, and there wasn't much



time. One had calculated the orientation of the windows from the apparent slant of the wind against them, and he knew that the moon would soon give sufficient light to enable them to make out the contours of the equipment.

"Can you smell anything, Two?"

"Just the water."

"Nothing else?"

"No food. Just water."

"Well, all labs have water, Two."

"I know. They use it to wash out the test tubes."

"Well, they do."

"Fred One on my last design was one of their test tubes."

Fred One nodded in a pleasant way to acknowledge the gibe and to say that he knew well enough the cruel uses to which water could be put in certain types of experiments.

"How many of these designs have you been on, Two?"

"This is my fourth."

"It's my twenty-third. Some of them were not so bad."

Fred Two crouched closer at the sleeve-plucking insistence of his curiosity.

"Tell me about the one where you stretched the learning curve up into the superior adult human range," he said.

"That was a long time ago." Fred One shook his head, annoyed at the pleasure any reference to this exploit always gave him. That had been a first-rate design and it

had caught him at the full tilt of his powers—or Powers, he giggled, remembering with strange pleasure Edith Powers and her soft clean hands lifting him into the maze to show her skeptical colleagues what a smart rat could do with adequate "reinforcement," they called it—the adroit manipulation of challenge and reward. Like geniuses of all times and species, Fred One was not above daydreaming, and his fondest reverie always found him loose at night in the stacks of the library scratching through the files of the *Journal of Comparative & Physiological Psychology* for Lister & Powers: "Positive Reinforcement and Escalated Obstacle Frustration in a Group of Sexually Deprived Inbred Male Rats." Sexually deprived! Fred One knew their attitude and no longer bewailed it: a rat is cheese, disease, and procreation, or the occasional object of a terrier's hunt. But why even mention such a meaningless form of deprivation when deprivation was the cage itself? Oh, he did not mean the absence of freedom—to starve or to be caught and killed. He meant the cage of idleness—to be stacked in a corner of the subcellar and fed and watered but never again . . . rewarded? No—challenged. It had not been the tidbits at the goal that drew his racing feet along the corridors of the Lister Maze—he had sometimes barely managed to choke them down. It was the peer-

ing girl and her ticking stopwatch, and the triumphant flourish as she depressed the stem when he saw through a clumsy lure and went on to beat his best time. Fred One had bitterly resented not being chosen for the next design—phase II of the same experiment—in which an entire colony of twelve cages were kept for six weeks in an enriched environment with toys, light, and plenty of mazes. There was one toy in particular that he dearly wished he could get his hands on—*paws* on!—a clockwork thing that you . . . But no matter, and *no matter* either that all of the rats in that experiment were later sacrificed and their brains spun down for cerebrocortical cholinesterase determinations. If Fred One had news for the world it was that none of his kind expected not to be sacrificed and if he had more news it was that he would go on being sexually deprived until *Rattus rattus* was no more. IF ONLY THEY WOULD LET HIM LEARN! !

"What's the matter, One?" Fred Two crouched closer still, glancing about nervously for the source of One's unease.

"Nothing, it's all right. I was just thinking . . . Do you like cheese, Two?"

"Not much. I like grain. I like —"

"Grain, then. I remember one of these designs where all we were asked to do was express a prefer-

ence for any of several kinds of food. Grain was one of the choices. We were in individual cages, I recall, and after we had made our selections the various foods were distributed over the metal flooring and the food each of us had chosen was defended with an electric charge. You could do one of three things: brave the charge and get to your favorite food; avoid that food and settle for something a bit less to your liking; or try to plot the field and learn to get to your preferred food without receiving a shock. I was Fred One for the first time."

"Yeah?"

"Well, what do you think we did?"

"I don't know. What are these shocks like?"

"They're not pleasant. You can stand it."

"Well, I don't know. I guess it would depend."

"No."

"Well, what, then?"

"We sized it up and passed the word. Every one of us chose a food we didn't like and let them defend that. So we just relaxed with our 'second choices' and had a nice vacation for about two weeks."

This story was almost more than cautious behavior of Fred One and Fred Two could stand. Feeling vaguely grumpy at what he felt to be too much success, Fred One turned his mind away in search of better things while Two glinted

and snarled and swayed from side to side in staccato paroxysms of joy. "Oh, oh, that's rich!" he gasped over and over, and more than once started up as if to nudge the others in the nest and then drew back, unwilling yet to interrupt pleasure with the effort of sharing it. Fred One waited between convulsions for the opportunity to make his point.

"And they—and they—oh, ho-ho-ho!" Fred Two exulted, triumphant with the vision of his hated testers carefully observing and writing things down and drawing con—con—*conclusions* from the cautious behavior of Fred One and the other rats.

"The point, Two, is that—"

"Oh, ho-ho-ho—"

"Two!"

"Yes, One." Two subsided with effort, and gazed happily at Fred One with renewed admiration and confidence.

"The *point*, Two, is that these things are not necessarily the end of the world *as long as we cooperate*."

"I know the system, One."

"These are intelligent people, trying to do a good job. They're all right."

"If you say so, One."

"We only have to keep our heads and look sharp. If it gets tough, we just try to save as many as we can."

"I know. You tell me what to do and I'll do it."

"I don't know what to do be-

cause I have no idea what the design is. Are you sure no one has heard anything?"

"Nothing, One. Every cage has at least a Four, and each one has called the roll. Nobody knows anything."

"These things don't just start on somebody's inspiration, you know. They have weeks of conferences, get preliminary approval from the department chief, then the Dean—the money has to be okayed, the time, the physical facilities, us, the research assistants and technicians all have to be lined up. You'd think—"

"Excuse me, One. I'm sure. Nothing."

"All right. Then we depend on our first sight of the equipment. Some of it you can see. Some of it—chemicals, food, machine oil—you can smell. I'll need you for that."

"I know."

One was sure that Two did know, and hoped he also knew that the subject was delicate. Lured beyond the bounds of judgment by the taunt that her "brilliant" rat was simply following a scent, Edith Powers had paralyzed the nerves inside his nose with a cotton swab soaked in a dilute solution of trichloroacetic acid that had not been dilute enough, and he had never quite regained the ability to make out presences in the dark. What was worse, she had spilled the stock bottle near the

cage and then rushed to open a window before trapping the fumes in a towel, so that a gust of wind blew the greedy stuff into his eyes and he now saw reality through a pane of frosted glass. He didn't blame her and he wished the others wouldn't—it had been her pride in him, he was sure, that had made her do it. But it was awkward all the same, especially since part of his job depended upon being able to convince the others that they were in the hands of intelligent people.

It was a job that was difficult enough at times, One admitted. Word had gotten around lately about a nonesterified fatty acid study in the medical school in which an inexperienced laboratory assistant had fed *linolenic* instead of *linoleic* acid in the final phase of an experiment and six weeks of semi-starvation (fourteen of twenty rats had developed nephritis and died) ended in "no result." (That experiment should have been confined in the first place, One was sure, to fatty acids showing geometric isomerism, since the negligible effects of arachidonic withdrawal had already been sufficiently demonstrated by Harper and others at Bethesda.)

But in the meantime the night was passing, Two was waiting, and the moon was coming. What would it show? One had uneasy feelings about this design. He thought he had heard of Erwin Al-

len, Ph.D., but something about the name bothered him. A visiting professor? If he turned out to be a young fellow, just starting out, that in itself could be a bad thing. Or if he were over thirty and still assistant prof that could be even worse. Some of these chaps eagerly approaching their first work or beginning to flounder in mid-career could be dangerous, especially if they were on warning from the chief to produce something. One definitely knew of a case where a sick rat was stuffed in a lunch bag to suffocate and a healthy one substituted so a meaningless sleeping pill could be reported out as harmless to laboratory animals. But Allen?—For some reason the name was associated in One's mind with sleep deprivation and exhaustion time studies—the bane of the laboratory animal's life and the all too frequent cause of his untimely death. The classic example was Koprowski & Moore (1951). In that experiment forty rats were slotted in treadmills tilted into water in such a way that they could stay out of the water only by walking uphill. At the same time they could get air only by working a complicated spring mechanism at the top of the hill with their noses. As time went on and the rats got tired, they became confused about how the spring mechanism worked. The frequency of successful manipulations (rhinipulations?) of the spring was automatically re-

corded, and the treadmills were stopped in different series for ten minutes per hour, five minutes, three minutes, and one minute per hour. All of the rats ultimately drowned, and One supposed the data were used to support somebody's idea about coffee breaks in business and industry. The design itself, however—so it seemed to One—left a great deal to be desired. After all, it was not the business of business and industry to work people until they drowned. Those animals should have been kept alive and checked carefully over a period of months to determine if there were any lasting ill effects of prolonged fatigue. If he had his way, he would repeat that experiment, taking care this time to—

One clapped a mental paw over his racing thoughts and peered guiltily at Two as if to make certain that he had not been talking to himself. What was he thinking! *Would* he repeat such a barbaric experiment if he had the authority? He knew he would not. And yet—

And yet he had not quite told Two all of what had happened on that happy occasion of the defended choices. Anything—but comfort most of all—gets dull after a while. One had found himself looking with mounting intellectual greed at a dish of gritty stuff he knew he hated. Surely there must be a way to get at it? Vague frag-

ments of conversation overheard in a dozen labs had finally clicked into place and he had determined to try an experiment of his own. One night he had collected tiny shavings of newspaper from the place where he hid his droppings and rubbed them vigorously against a bakelite water container attached to the bars of the cage. One by one, in a line pointing toward the forbidden dish, he had let them fall slowly to the floor. Suddenly he let one drop and it fell like lead—and he had located the outermost limits of the charged field. All night he worked furiously, and by dawn had cleared a narrow winding path hedged on both sides by bits of paper. Gaily he made his way back and forth from the dish to his bed, piling up the hateful gritty stuff—for no other reason than to sit gloating beside it when the technician checked the cages in the morning.

The immediate result had been most gratifying. Oh, the head-scratching and the clipboard-clutching and the *attention* he had received! One laughed once, as he often did, thinking of that morning—but then immediately sobered, as he always did, and acknowledged his full personal responsibility for what followed. The simple design was immediately reshuffled beyond their powers (Edith!) of divination, the voltage was increased, and three of the older rats making a break for it



across a loaded field had gone into ventricular fibrillation and died.

They should have died hereafter!—a great human king had once proclaimed.

No, One. You have taken as the touchstone of your behavior the minimization—to paraphrase Pauling—of murine misery, and that is—

“Yes, Two?”

A flurry of nerve impulses nearby in the nest wrenched One away from his contemplations.

“One, I think the moon is coming!”

It was true. The first rays had fallen on the far wall, and soon would sweep the tables clean of their mystery. One would then know what Erwin Allen (*Allen?*) and his co-workers had in store for the colony. Two raced to the bars, squeaking messages to all of the Fours in the other cages as the colony came to life. The females, One knew, would begin briskly to move shredded papers about into little hollows—as if the act of preparing to nourish nonexistent young would protect them from harm. The males would watch their Fours, scuttling out of the way as the Fours moved importantly back and forth inside the bars peering for data. Two did the same thing, skillfully maintaining his own vigilance while at the same time cocking his whiskers to receive signals from his lieutenants in the other cages. The moon slow-

ly swelled with borrowed heat and floated upward until One could almost feel its light like fingers on his blinking lids.

“One, they see a computer!”

Two scampered to headquarters and then back to his forward post, trembling with excitement.

One pricked up his whiskers. “What kind?”

“Large—I see it now—at least, it looks like a computer.”

“What does it say on the front panel, Two?”

“I can’t make it out! Oh, God! Wires! One, it’s electricity again! Wires leading to cages!”

“How many cages? Calm down, Two.”

“How many cages? Calm down, Two.”

“I don’t know—they’re all over the floor! There must be a hundred of them!” One got up slowly and made his way to the grill-work. Two crouched beside him, starting to snivel. “One, I don’t think I’d like those shocks! My feet are tender! I was raised in a cage!”

“Be quiet, we were all raised in cages.” With gruff sympathy he nudged Two with his nose and pressed against the grill-work, vainly trying to see. “Tell them to be quiet.” Two swallowed hard against the resistance of the dry membranes inside his mouth and throat and ran along the grill croaking orders. With the comfortable habit of obedience the rats fell silent except for one voice on

the far side of the flat.

"Is that a Four? What's he saying?"

Two ran to the extreme corner of the cage and exchanged a relay of messages, reporting back over his shoulder as the reply came in.

"Pile of papers or magazines on a desk . . ."

"That'll be it."

". . . journals, it looks like."

"Bound volumes?"

"Unbound . . ."

"Recent, then. What journals?"

". . . can't see the titles . . ."

"The top one?"

". . . getting it. *The Journal . . . of the . . . Institute . . .*"

"Of what? What institute?"

One came alert.

". . . of *Radio Eng—*"

"Radio Engineers! The I.R.E.!"

One tensed and held his breath as the name Allen circled widely into the vortex of his bottomless memory. Brusquely he called Two and nudged him roughly to attention. "Now you describe that equipment, Two. It must be light enough—I can feel it."

"C-Cages, One, like I said."

"How big?"

"Large—larger than this one—room for m-maybe forty rats in each one."

"What else?"

"This big thing—computer thing—only I've seen com-p-puters and this one has these . . . wires!"

"What about the wires?"

"They run out of this big thing, One—all over the front of it—"

Fred One lowered his voice to almost a whisper. "All right, now listen—this is very important: Do you see any *buttons*?"

"B-Buttons, One?"

"Buttons! In the cages!"

Two scrambled away, calling to the Fours on the lower-most tiers to describe the inside of the cages, and came back, momentarily forgetful of his anxieties under the prodding of reinforced admiration. "One, you've got something? Yes! Each cage has these but—"

"By God, Two, we're all right!" One laughed and reached blindly with a paw as if to ruffle the hair on Two's head the way he remembered seeing a young experimenter do to his visiting son. He grinned fiercely and made a swooping infinity sign with his tail.

"W-Whuh—"

"It's a branching 709!"

"What's a—"

"A teaching machine, you idiot!" THIS IS THE CULMINATION!—One almost screamed it as the name Allen tilted and fell. Four hundred thousand from HEW to develop a self-organizing mathematics logosity with wash-ahead and subsequence—Burkhaalter circuits with looping impedance—and the "let the machine do it" answer to the problem of programming ahead of the superior students. "Why Can't Johnny Read

Sanskrit?"—Abel & Forbes, *J. Res. Soc. Am.* 33, 1962. *Because he hasn't got a 709!*

So it had come. This was what he had been building for—training for—being "deprived" for . . . Deprived? One slammed shut the steel valves of memory but it was too late. Now he remembered . . . It had not been her clumsiness that day in the lab that had spilled the acid and blinded him, it had been Alan Lister and their sudden reaching for each other and her breathless, "Yes, Alan! Oh, yes! Yes!"—and then the swirling and shouting in each others' arms while he lunged at the grill-work, squeaking, "Edith! Edith!" and *then* the acid and the haze forever before his eyes and the sleepless nights thinking about her and Alan Lister squirming together in their warm nest of shredded newspapers. But no matter now, Edith! Take your Alan—I have mine!

The cages were in a furor as the word went down that Fred One was excited about something. It didn't matter. They would be all right. They could scamper about in the way rats were expected to do, dropping feces whenever they felt like it. They would be his backdrop, the base-line of his accomplishment, the abscissa to his rocketing ordinate, the muted accompaniment to his virtuoso improvisations. Two would take care of them, order them about. It was what they liked. They were the

rats. Cheese, disease, and procreation. Shucking off the last shred of his vanishing guilt he regretted no longer his inability to smell them or see them. Ugly scampering things with their naked tails! Fred One was going to join his own! Life was short, and rats were cheap, but a liberated brain can outrun the stars and the 709 had better be ready. Fred One chuckled, imagining the first-frame programmers groping downward to rat level: things in twos reward with food; threes, water; fives, pain. And now you and the computer are on your own. Well, then, what about multiples—or even cubes—of two, three, five? Would he leap to thirty—the first multiple of all three? Or why go in that direction at all? Fred One could do square root and nobody knew it. A self-organizing system was bound to take him at least that far. He leaned against the grill, brushing aside Two's eager questions and blinking through frosted corneas at the huge black friend. How much farther would it take him? How far was there to go? One caught his breath and whistled loudly through his nose at the sudden thought that in effect he would be programming his own system . . . a self-organizing computer responded at *and beyond* the level of the input and *made no distinction between rats and men!*

Fred One began to tremble. It was better than that. If the computer was organized to stay ahead

of him, One was in effect teaching, then learning, teaching, then learning—as fast as the circuits could function. There was—simply and at last—no limit any more.

Fred One slumped against the grill, smiling. What did they want—his beloved colleagues with their white coats and pipes and grubby politicking after grants? The beta chain is isovaleryl? The coefficient of weightlessness in the Enders

neutrino? Well, they should have it! They were good people, and had held him gently. What did they call it—serendipity? Would they accept a breakthrough—would they recognize one—from a rat and a computer? Probably not. Probably not.

But Fred One would die knowing.

And the computer would remember . . .

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# BEWARE OF THE DOG

by Cahan Wilson



nce there was an encyclopedia salesman who ignored a sign saying BEWARE OF THE DOG and went up on the porch of a pleasant cottage to ring its bell. The door of the cottage opened, and the salesman was admitted at once by a small man with a kindly face who led him straight to the parlor and

served him tea and biscuits.

The salesman described the many merits of the encyclopedia, and told of the numerous advantages which would naturally come to anyone fortunate enough to own a set. The little man, who wore a long bathrobe, slippers, and gloves, said not a word, but his interest was gratifyingly obvious. In the end, he nodded firmly, gave the salesman a signed check for the full amount, and took possession of the encyclopedia set then and there.

The salesman left happily, smiling at the BEWARE OF THE DOG sign, and thinking how wise he had been to ignore it.

The little man with the kindly face watched the salesman out of sight, and then he took off his kindly face, which was actually a mask, his long bathrobe, slippers, and gloves. After that he went to the kitchen and lapped up a soothing bowl of milk for he had been a dog in disguise all along, of course, and his check would most certainly bounce.

Moral: *Beware the right dog.*





*"B. Traven. No one really knows who this man is. Behind the signature hides Mexico's most famous writer. Author of TREASURE OF SIERRA MADRE (made into a movie with Humphrey Bogart), DEATH SHIP, BRIDGE IN THE JUNGLE. The author is of German-American stock, lived in the Jungle of Mexico's Yucatan Peninsula, is in his early 70's, under no circumstance is Traven willing to meet his public. He had a recent eye operation, for years did he write without an agent and his writings were marketed by the sister of Mexico's President Lopez Mateos. Sierra Madre is now to be issued by Time-Life reading series, Death Ship has been re-issued by Collier Books. March To Caobaland is his last published book. 5 books of his have not been published yet; like Hemingway he wishes them to be published after his death to take care of his friends in the Yucatan."*

*The above, which we believe to have been written by Traven himself (though we cannot prove it), is a fair sample of this mysterious man's curious prose. It is a prose which, for all its seeming faults, has been able to sell in enormous quantities. From one clue or another it would appear that Traven has been living in Mexico for decades, and is intensely familiar with its past and present. We are no student of its antiquities, and cannot say how much this tale owes to its Indian origins and/or how much to the eremitical Señor Traven; whichever way, it is an intriguing story of The Two Great Lights, worthy to be set beside such other stories as we have printed about the American Indians north and south.*

## SUN CREATION

by B. Traven

MEN LIVED IN PEACE ON EARTH. The Sun gave them light and warmth, enriched their fields with golden corn, painted the flowers in

beautiful colors, filled the trees with sweet juicy fruit, caused the birds to sing.

So it was only natural for men

to revere the Sun as the source of all blessings and richness and happiness. They erected great temples and pyramids of stone to the good gods to whom they owed the preservation.

But it came to pass that the gods of evil and darkness, who lived in deep ravines and along the shores of subterranean lakes, set out to rule the world and to destroy the good gods.

The fierce fight among the gods shook the universe and upset the life of the people.

The seas, lakes and rivers flooded the fields. The waters carried whole cities away. Then the floods receded, and the lakes and rivers dried up, followed by devastating drought and dryness that caused misery all over the lands. However, people still enjoyed the Sun in the sky. And it was the Sun which filled their hearts with hope and kept alive their faith that the good gods sooner or later would conquer the bad.

Yet, after long and bitter wars, the gods of evil defeated the good gods for they united with all bad spirits and enemies of what was good. Then they slew all the wounded good gods and left their bodies unburied for the vultures and coyotes to devour.

There was great sadness everywhere in the universe. All harmony was destroyed. Discord and enmity arose whenever and wherever people gathered.

Now that the good gods had been killed, the gods of evil destroyed the Sun.

They hated the Sun because of its light, warmth and friendliness to people on earth. So they extinguished the Sun, in the hope of also annihilating the human race.

After the Sun was extinguished with snow, darkness settled on earth.

Only noncultivated maize managed to grow. Some beans and edible roots survived.

Thousands of people died of starvation. And many died because of the cold. Still many others lost their way in the eternal darkness.

Animals of the field, woods, prairie and forest vanished.

With distress and suffering all over the earth, the Sages in the temples had not one ray of hope for a birth of a new Sun in the skies. The kings, lords and leaders of all the Indian peoples gathered to discuss the creation of a new Sun to shine against the gods of evil.

The meeting of the kings and leaders and chieftains lasted for seven long weeks, and not one man could tell the others how to make a new Sun. Among the Sages there happened to be an old philosopher more than 300 years old. All the secrets of nature were known to him. His name was Bayelsnael.

At last the Sage Bayelsnael spoke to the gathered council:

"Hear ye, esteemed leaders, brothers and friends! There is certainly a way to create a new Sun as big and beautiful a Sun as the one we once enjoyed and saw with our own eyes. But the way is difficult and full of danger. A young and strong man of Indian blood must visit the stars. And when he arrives there, he must ask the spirits there to give him a small piece of each star. He must be careful that these pieces don't burn his hands, for they are hotter than any fire known on earth. He must put all these little pieces of the stars together, and then take them with him while he climbs higher and higher, until he reaches the very apex in the arc of the sky. He must fasten all the little pieces on his shield, and as soon as they are fastened, his shield will turn into a big hot Sun."

After the Sage had spoken, the leaders cried out in a mighty voice:

"We are ready to go and create a new Sun!"

The Sage answered them calmly:

"It speaks well that you are so willing to go, but understand, only one man may go with his great shield, because only one Sun is to be created. Many suns, or even more than one Sun, would burn the earth to ashes. And furthermore I must tell you that the brave man who is willing to go, must be prepared for the greatest sacrifice

a man can make. He must leave his wife and children, his father and mother, his friends and his people. He must wander forever in the sky, the shield in one hand, the lance in the other, always ready to fight the gods of evil. He will see his loved ones, his friends, and all his people die, one after the other, but he himself will be a lonely immortal for all eternity."

When the kings, lords, and warriors, and all men heard these words of warning, they fell silent. Who among them would wish to separate himself, forever, from his family? Here they would die peacefully, and they would rest at peace in tombs in the earth. All feared to live forever, to continue fighting through all eternity.

The silence lasted for seven long days. Then, on the morning of the eighth day, one of the youngest chieftains raised his voice and said:

"With your permission, may I speak to you all? I am young, strong, and I have much experience with arms. My wife is young and beautiful; I love her dearly, for she is the very image of kindness and goodness, and she never tires of doing good deeds. I also have a fine son, of noble mind and strong in body, versatile as a young tiger, shrewd like a coyote, and fast as an antelope. I also have a mother whom I must take care of because she is old now and weak. Besides my beloved family, I can

count ten if not more good friends whose faithfulness I have valued since childhood days, because with them I shared dangers and hunger, wounds and thirst. I am a true son of earth and of my people. Yet, what use is all of this to me when my people are without a sun? How can I be happy when all mankind is suffering! For that reason, I ask of you the great privilege to be allowed to leave and go up to create a new Sun."

He who spoke thus, the longest speech in his life, was Chicovaneg, a young chieftain of the Shcucchuitsans, a tribe of the Tzeltal nation of Indians.

So he took leave of his wife, his son, his mother, his friends, and his people.

Following the advice and directives of the Sage Bayelsnael he made himself a strong shield out of hides of kingly tigers, interweaving the skins with those of mighty snakes of the jungle.

He made himself a helmet out of a powerful eagle which used to swoop down to slay many a hunter with its mighty wings, claws, and beak.

Then he went forth to look for the Feathered Serpent.

After many years of dangerous and perilous fights, he found the Feathered Serpent in a deep cavern. The feathered Serpent was the living symbol of the universe. And because the Feathered Serpent was all good, the evil spirits

and gods of darkness abhorred it. They couldn't kill it, for it was life itself, but they kept it chained in a cavern, where the sorcerer Brujo Masqueshab lived.

The evil gods gave Masqueshab much gold and many fine pearls which they had stolen from the temples of the good gods. The sorcerer Masqueshab had earned his name from his many wicked vices and most terrible sins. He seduced the good wives of the region with the lure of his splendid stolen treasures. When the hearts of the women were broken, he injected poison into their bodies and sent them home to their husbands, where they died in great pain.

Masqueshab had chained the Feathered Serpent to a Rock in the depths of the cavern. He engaged a wicked man, named Molevaneg, as guard. Molevaneg had a crippled foot, which kept him constantly in a very bad temper, so that he enjoyed torturing and tormenting the Feathered Serpent. His pitiful cries of pain were a delight to Molevaneg. But one night the Feathered Serpent managed to get his fangs into Molevaneg's crippled foot and held him fast, day and night, until Molevaneg withered and died. The death agonies of Molevaneg were heard by the sorcerer Masqueshab, who was wandering in the countryside. He hurried to the cavern, but found no guard, no Molevaneg, but only a heap of bones.

At this very time, Chicovaneg came along, disguised with beard and whiskers, with warts and a hunched back. Masqueshab asked him if he thought that he could serve as a prisoner's guard. "I am a good guard of snakes," answered Chicovaneg. "I catch snakes for their skins, you see." Masqueshab made Chicovaneg the guard of the Feathered Serpent.

Chicovaneg, cunningly planning to kill the evil sorcerer Brujo Masqueshab, made him drunk with a mixture of sweet juices. Masqueshab had four heads, forty eyes, eight arms and eight legs. When he slept he was like a giant tarantula or octopus, with ten eyes open while his other eyes slept. But Chicovaneg managed to make him so drunk that he closed all of his forty eyes at once. Chicovaneg killed him with a spear poisoned with one hundred different venoms, given him by the old sage, Bayelsnael.

Chicovaneg tried to free the Feathered Serpent from the chains, but it took him many days, for the chains were tied and knotted by tricks of witchcraft and magic. Chicovaneg worked his own Indian magic, by singing sweet songs and melodies. At last, his magic rhythms freed the Feathered Serpent from the chains and rocks. And the great sacred Serpent, glad for its freedom and strength, followed him from that day onward, obeying all his commands.

Now Chicovaneg immediately started his great travels about the world. After many many years and countless fights with evil spirits, he arrived at the ends of the world. Here he found the lowest star so close that he thought he could reach it with his hands. He saw two powerful eagles and captured them; but because the eagles were messengers of the good gods, he did not kill them, but instead begged their forgiveness.

But the eagles said: "We know very well why you captured us. You need our mighty wings to carry you to the stars. We will give you our powerful wings, and we will teach you how to use them well."

Chicovaneg tied two of the great eagle wings to his legs and two to his arms. When the eagles had taught him how to use them, he flew to the rock Taquinvits, where he put them in a protected cavern since they were without the weapons of their wings.

And the eagles said: "This is a safe retreat, and we will wait here until you kindle a new Sun. For in the New Sun, new wings will grow for us, and then we will fly to you, and greet you, Chicovaneg, for you are a friend of all that is good and noble on earth."

Chicovaneg said goodbye to the eagles and went to a place close to the end of the world to prepare himself for the final ascent. He wore a powerful living eagle as a



helmet. In his left hand he carried a marvelous shield, in his right hand he carried a heavy spear with a long sparkling tip of gilded flint. His hands and feet were covered with the paws of a panther, and he wore the mighty wings of the two eagles on his arms and legs. His body was clothed in hides of lions, and over all he wore a cloak of feathers from brilliant and beautiful birds. Thus he was fitted with the strongest and swiftest things in this world.

Chicovaneg said to the Feathered Serpent: "I am ready. Let us start on our quest."

The Feathered Serpent answered: "Leap, Chicovaneg, you cannot fail, for I will guard you while you rise. Do not turn around, do not look back." At this very moment Chicovaneg was crouched to spring into space, but he saw that the lowest star was much higher than he had judged it to be. And he was afraid, saying, "Feathered Serpent, what will happen if I jump too short and fall into the cold and endless void? The evil gods will catch me and destroy me."

Replied the Feathered Serpent: "Jump for that lowest little star you see there, right before your eyes."

Again, Chicovaneg made ready to jump. Again he was afraid, saying, "The lowest star is much too high for me to reach. If I only stood upon a high rock, I would dare to leap from it to that little star yonder there."

Again the Feathered Serpent advised: "Jump, Chicovaneg!"

Chicovaneg, still hesitating, said: "I must bind my shield more tightly; and, see there, the thongs of my sandals are slipping. These things must be fastened before I can leap, or I shall fall into the bottomless abyss, never to return."

The Feathered Serpent patiently watched him undo the straps and re-tie the thongs. This took Chicovaneg many days. At last he was ready, and again he trembled as he looked at the lowest star.

"Jump, Chicovaneg!"

When the Feathered Serpent saw that Chicovaneg was in the right position, it sprang and struck him in the back with such force that Chicovaneg flew forward like an arrow and fell headlong upon that lowest star, the Serpent behind him.

Chicovaneg rose, looked for his great spear, cleaned the stardust from his garb of feathers and furs, and went to pay his respects to the inhabitants, the spirits of the deceased who guarded the star. They praised him highly and gave him a piece of their star, that it might shine for the benefit of mankind on earth. Chicovaneg placed the little piece on his shield, where immediately it began to shine brilliantly. Chicovaneg's constant hesitation was gone. From now on he vaulted from star to star, the Serpent always with him. And though he was uninvited and unexpected,

the spirits gave him bits of their own world. And though the faces of the spirits on the stars were black or yellow or white, and though they were strange to him in their appearance and their speech, all of them were ready to give him pieces of their star. When Chicovaneg at last came to the spirits of his own tribe, he was welcomed with great festivities, for these people felt proud that one of their own blood was to create a new Sun.

With new courage, Chicovaneg happily continued his difficult quest. With each jump from one star to another, his great shield glistened more and more.

When his shield became so brilliant that it was brighter than the biggest star, the evil gods noticed that he was well on his way to creating a new Sun; and they began to fight him with great fury. They caused the earth to shudder, and the stars to tremble, for they knew that if he missed only one leap, he would fall through all eternity, never to be saved, not even by the magic of the sacred Feathered Serpent.

But, Chicovaneg too was clever. He waited patiently until the tremors of the earth and the stars subsided, and then—before they could re-commence, bravely sprang across each dangerous void. When a star was so small that he might miss it, the Feathered Serpent helped him figure the correct dis-

tance. Sometimes when a star was just beyond his strongest leap, he let the Feathered Serpent fly ahead. The serpent's fangs seized hold of the star's rim; his tail swung down into space, and Chicovaneg leapt, to catch the brilliant tail and gain access to one more star.

Chicovaneg climbed higher and higher. His shield became brighter and brighter with every year, shining so that men on earth could see him and realize that a new Sun was being kindled for the earth.

By now the earthlings were able to see the hard road that Chicovaneg had still to take among dangerous comets. They lived his fears and his triumphs. They went to the highest mountains to build fires, as a signal to Chicovaneg telling him of their faith in him.

These little fires on earth gave Chicovaneg new strength and courage. When his many enemies crowded him too closely, he raised his shield into the faces of their on-coming forces, and they were blinded by the lustre of his shield.

When the evil gods recognized his superior courage, they took revenge on the peoples on earth by sending sudden hurricanes over the lands which destroyed the huts and towns. The evil ones filled the fruit with worms, and sent millions of rats over the earth to eat and destroy the remaining shoots in the soil. Floods were set loose. Fiery streams of molten rock ran across

the lands, and poisonous smoke coiled everywhere. The evil ones threw burning comets at Chicovaneg, and so many that, to this very day, thousands of these burning stones are still hurtling through the skies, visible at night. But Chicovaneg kept climbing, his shield becoming brighter and brighter, until it looked like a little Sun.

On earth, flowers began to grow and blossom anew.

Birds returned with plumage more beautiful than before, singing and chirping to greet the new Sun.

Forests again became alive with many animals.

Rivers and lakes abounded with all kinds of fish.

One day the people became fully aware that the new Sun was a reality, perfect in its radiant glory, high above them in the apex of the sky. Then all people celebrated the great feast of the Sun in honor of Chicovaneg. They went to work with new strength, guilding many new cities and beautiful temples.

Though Chicovaneg had fought valiantly, he could not rest, nor could he live in peace from his enemies. He had not been able to kill off all the evil forces which hoped to extinguish the new Sun. Now, they enveloped the earth with black clouds so that people would forget Chicovaneg and worship the evil ones in fear. The people began to despair and to suspect each other,

for they now believed that the Sun would again be extinguished, as it had been before.

But Chicovaneg was on guard. He raised his great burning shield, and when he again had triumphed over the evil ones, he painted a big arc of beautiful colors in the sky, an arching bridge from earth to sky, on which the people's spirits might promenade, his sign to all people that they could work in peace and happiness, for he, the kindler of the new Sun, was standing guard.

When the son of Chicovaneg grew up, he became so sad and thoughtful that the men of his tribe called him Huachinogvaneg, because his dreams were more up in the sky with his father than down on earth with his people.

One day when his mother, Lequilants, returned from the temple of the new Sun, she found her boy lost in contemplation. She went to him: "My son, why are you so sad? People are rejoicing in the new Sun your father has given them."

Huachinogvaneg bowed and said: "Oh, my beloved mother, and should I not be sad? My father has done great deed on earth and in the sky. Having done no great deeds, I feel unworthy of my father."

She answered: "Your father and I know very well that you are worthy in all things. And if there were not a new Sun in the sky, you surely would go and create one. But you do create beautiful

houses out of stone, so that people can live in them, secure from storms and wild animals."

Replied he: "But I have become tired of this. Once these houses are built, time decays them, and after several summers, no person remembers the man who built them."

Whereupon she said: "My son, not all men can create new Suns, but there is a permanent need for many things to be done on earth. If these things are not done, of what use would be the perfect Sun up in the sky?"

"My honored mother, you have spoken wisely. But you are a woman, while I am a man with other thoughts. When I was sitting under the huge tree, I spoke to my father. I intend to go to him."

"Now I know," said she, "that you are like your father. No one has the strength to prevent a man of a strong mind from doing what he truly desires to do. Take me to the house, for I feel my years, and I want to lean on your strong arm."

So he saw his mother to the house and she put out the light of the primitive pine wood torch and covered the embers on the hearth with ashes. But Huachinognaveg had left the door open to see the stars, and to think.

She spoke to him: "Come here, my son, and sit near me. I am afraid of the dark tonight as every night."

"Do not be afraid, mother, I am with you."

"Yes, you are with me, and I am glad. But there are many many mothers who have lost their sons, and there are many many women who never had a son. All are afraid of the dark night. So I have thought, the people need also a Sun at night. But who would dare to go and create a little Sun only for the night? A rare man, he'd be. And his father and mother would be proud of such a man. Indeed, I think it would be more difficult to create a Sun for the night than it was to create the Sun for the day. The kindling of a night Sun requires more than courage. It requires great intelligence. Such a night Sun should give light, but not heat; otherwise, the people, animals, birds, trees, flowers and plants could not recover from the day's heat."

Huachinogvaneg pondered over his mother's words, and he answered: "I agree that it would be difficult to create a Sun for the night; indeed, very difficult."

"It is much more difficult than you can imagine, my boy. The Sun of the night should give full light only at times, and this full light should increase and decrease gradually. There should be nights when the night Sun disappears completely, so that people may know what true darkness means, and the beauty of complete stillness. But I doubt, my son, that there lives any man on earth clever enough to create such a Sun of the

night. However, it is good to have such dreams."

Time passed, and one day Lequilants found her son sitting on the ground sketching rings and still more rings in the sand. She approached him and asked: "Why are you so lost in deep thoughts, my son?"

"Mother, I just had a clear idea of a Sun of the night. Now I have found the solution to create a night Sun. I know of a very wise man who during all his life has studied the ways of celestial bodies. I will seek his advice and counsel. With his guidance I can create a night Sun, one that will give only light but no heat, one that will grow slowly, and get smaller, and even disappear at times."

And she said to him: "My son, I am very happy you want to create the Sun of the night. My blessings are with you. And if you come near your father, greet him for me, and tell him that I think of him, always. Once you have kindled a Sun of the night, I will know that my days are fulfilled, that I can leave this earth as the wife of the bravest man, and the mother of the cleverest of men that ever lived."

Huachinogvaneg took leave of his mother to look for the Feathered Serpent. But before that, he met the sage Nahevaneg: "Wise man, can you tell me where to find the Serpent with feathers, who will

help me create a Sun for the night?"

Nahevaneg answered, "The Feathered Serpent is the symbol of our world, and since there can be only one such symbol, there is only one Feathered Serpent. Your father freed the Feathered Serpent to help him create the Sun. And after the Sun was kindled, he ordered the Feathered Serpent to stretch itself around the world just where the arch of the sky rests on the earth, or the ocean. There the Feathered Serpent lies guarding the world against evil forces.

"Your father is very cunning. He does not trust the Feathered Serpent entirely, knowing that the Serpent likes to drink quantities of the sweet streams that flow along the horizon's edge mixed with stardust to make a sweet and heavy wine of strange power. How the Serpent loves it, for this wine at the world's edge is the drink that alone can quench his thirst. So Chicovaneg descends each night to see that the Feathered Serpent has not taken too much of this ethereal wine.

"When Chicovaneg finds the Serpent awake and on guard, his radiant face joyfully paints the evening sky a golden red. But when he finds the Serpent asleep or drowsy, he gets terribly angry, his eyes flash like fiery wings dipping in and out of the dark evening sky. Therefore, you must look for another animal to take along



for help, because the Serpent cannot go."

While the sage was speaking, a rabbit came jumping along, joyfully eating bits of the lush prairie grass here and there.

"Take a rabbit along with you, son, for a rabbit can leap, is always happy, and can be of good use to you" advised the sage.

Huachinogvaneg took the rabbit up and said farewell to sage Nahevaneg. Then he went off to make himself two shields, a heavy one to carry on his left arm, the other a light one so wonderfully woven that when he held it against the Sun, it was like a dark disk. This light shield he did not fasten to his arms, but carried it now in one hand, now in the other. He carried no weapons for in the bright light of his father's shield he would never need to fear the enemies of darkness.

With his rabbit Tul, he provided himself with a strong and long lasso, and when finally he was ready, he traveled to the end of the world. There he found a deep cavern in which lived the great tiger, Cananpale-hetic. This tiger came out of his cavern and said to Huachinogvaneg, "Do not be afraid of me. I am the world tiger. This here is the exact spot from which your father started out to create the Sun. And it was just here he hesitated. He stamped one foot, and then the other, treading so hard that this cavern was

formed. I ran up here, pursued by a pack of savage coyotes which the evil gods sent out to destroy me. Chicovaneg saved me from the coyotes, and offered me this cavern for a home. And he sent the Feathered Serpent to kill all the coyotes. Now I remain here for eternity, to protect the road from earth to the lowest stars. You may rest here, Huachinogvaneg, and gather strength for your task."

After Huachinogvaneg had rested and Tul had eaten well, they climbed the rock Chabuquel. He looked at the lowest star, and seeing that it was too far away to reach in one leap, he became afraid and very much discouraged.

But the rabbit Tul said: "My life is not as long as yours, Huachinogvaneg. I cannot wait so long. I must hurry in this lifetime so as to complete my task."

And before Huachinogvaneg could reply, the rabbit Tul had jumped. The tip of one of his long ears touched the star, and he struggled with his legs to get a foothold. A branch of a thornbush sticking out from the star helped to hold Tul from falling into the terrible void. Free of the thorns, he leapt up onto a high rock, jumping up and down until Huachinogvaneg could see him. Huachinogvaneg threw his lasso to the star. Tul caught it and fastened it onto a rock, so that Huachinogvaneg swung through space and landed on the star.

Together in triumph they went to greet the inhabitants of this first star.

And thus they wandered from star to star, taking a tiny bit from each one. Each bit of star that was given him, he tied to his lasso and let it down into the cold black void to cool before he put it onto his shield, making a smaller and whiter light than that of the Sun.

And Huachinogvaneg said to Tul: "My Sun will not be as beautiful nor as marvelous as the Sun created by my father. My cleverness is greater than my bravery. The Sun I have almost completed is as my mother wanted it, sometimes great, sometimes thin, and sometimes invisible."

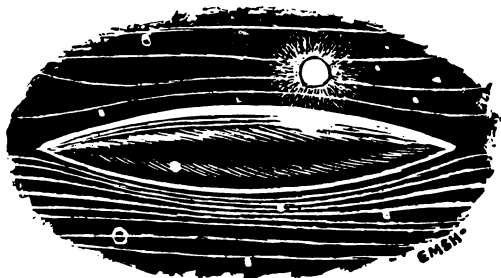
Tul asked, "How did you manage to do that?"

Huachinogvaneg showed him: He took the little shield in his right hand and moved it slowly along to shade the big shield on his left arm. As the shadow moved along the larger shield, which was the shield of the night's Sun, it became smaller and smaller until it

was completely shadowed by the light shield, and only its darkened outline was visible. Slowly, Huachinogvaneg moved the lighted shield along, letting the Sun of the night shield become larger and larger until it had regained its full size.

When his mother on earth looked up and saw this, she called all her neighbors together, and said, "Now I can die in peace, for I had a brave husband, and I bore him a clever son." Saying this, she died.

The men of her tribe took her up to the highest mountain peak where she would be closest to her husband and her son. The first ray that Chicovaneg sends to earth each morning kisses her forehead before it reaches other people; and the last ray in the evening envelops her body in a red-gold glory which equals any other great beauty on earth. And at night Huachinogvaneg shows the waxing and waning light from his shield so his mother will never be afraid of darkness.





## A PIECE OF THE ACTION

*by Isaac Asimov*

ABOUT HALF A YEAR AGO, MY BOOK *I, ROBOT* was reissued by the estimable gentlemen of Doubleday & Co. and it was with a great deal of satisfaction that I noted certain reviewers (possessing obvious intelligence and good taste) beginning to refer to it as a "classic."

"Classic" is derived in exactly the same way, and has precisely the same meaning, as our own "first-class" and our colloquial "classy"; and any of these words represents my own opinion of *I, ROBOT*, too; except that (owing to my modesty) I would rather die than admit it. I mention it here only because I am speaking confidentially.

However, "classic" has a secondary meaning that displeases me. The word came into its own when the literary men of the Renaissance used it to refer to those works of the ancient Greeks and Romans on which they were modelling their own efforts. Consequently, "classic" has come to mean not only *good*, but also *old*.

Now *I, ROBOT* first appeared thirteen years ago and some of the material in it was written— Well, never mind. The point is that I have decided to feel a little hurt at being considered old enough to have written a classic and therefore I will devote my article this issue to the one field where "classic" is rather a term of insult.

Naturally, that field must be one where to be old is, almost automatically, to be wrong and incomplete. One may talk about Modern Art or Modern Literature or Modern Furniture and sneer as one speaks, comparing each, to their disadvantage, with the greater work of earlier ages. When one speaks of Modern Science, however, one removes one's hat and places it reverently upon the breast.

In physics, particularly, this is the case. There is Modern Physics and there is (with an off-hand, patronizing half-smile) Classical Physics. To put it into Modern Terminology, Modern Physics is in, man, in, and Classical Physics is like squaresville.

What's more the division in physics is sharp. Everything after 1900 is Modern; everything before 1900 is Classical.

That looks arbitrary, I admit; a strictly parochial 20th Century outlook. Oddly enough, though, it is perfectly legitimate. The year, 1900, saw a major physical theory entered into the books and nothing has been quite the same since.

By now you have guessed that I am going to tell you about it.

The problem began with a German physicist, Gustav Robert Kirchhoff, who, in 1859, invented spectroscopy. He discovered that each element, when brought to incandescence, gave off certain characteristic frequencies of light; and that the vapor of that element, exposed to radiation from a source hotter than itself, absorbed just those frequencies it itself emitted when radiating.\* In short, a material will absorb those frequencies which, under other conditions, it will radiate; and will radiate those frequencies which, under other conditions, it will absorb.

But suppose that we consider a body which will absorb all frequencies of radiation that fall upon it; absorb them completely. It will then reflect none and will therefore appear absolutely black. It is a "black body." Kirchhoff pointed out that such a body, if heated to incandescence would then necessarily have to radiate all frequencies of radiation. Radiation over a complete range in this manner would be "black body radiation."

Of course, no body was absolutely black. In the 1890's, however, a German physicist named Wilhelm Wien, thought of a rather interesting dodge to get round that. Suppose you had a furnace with a small opening. Any radiation that passes through the opening is either absorbed by the rough wall opposite or reflected. The reflected radiation strikes another wall and is again partially absorbed. What is reflected strikes another wall, and so on. Virtually none of the radiation survives to find its way out the small opening again. That small opening, then, absorbs the radiation and, in a manner of speaking, reflects none. It is a black

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\* Light is a wave-form and its frequency is the number of waves that pass a given point in space in one second. The smaller the waves, the higher the frequency. For some detail on this, see THE LIGHT FANTASTIC, F & SF, August, 1962.  
—Well, save your issues.

body. If the furnace is heated, the radiation that streams out of that small opening should be black body radiation and should, by Kirchhoff's reasoning, contain all frequencies.

Wien proceeded to study the characteristics of this black-body radiation. He found that at any temperature, a wide spread of frequencies was indeed included, but the spread was not an even one. There was a peak in the middle. Some intermediate frequency was radiated to a greater extent than other frequencies either higher or lower than that peak frequency. Moreover, as the temperature was increased, this peak was found to move toward the higher frequencies. If the absolute temperature were doubled, the frequency at the peak would also double.

Thanks to "Wien's law", it became possible to study the light of a star, determine the frequency peak of its radiation, and know from that what its surface temperature was. But now the question arose: *Why* did black-body radiation distribute itself like this?

To see why the question was puzzling, let's consider infrared light, visible light and ultraviolet light. The frequency range of infrared light, to begin with, is from a hundred billion (100,000,000,000) waves per second to four hundred trillion (400,000,000,000,000) waves per second. In order to make the numbers more easy to handle, let's divide by a hundred billion and number the frequency not in individual waves per second but in hundred-billion-wave-packets per second. In that case the range of infrared would be from 1 to 4,000.

Continuing to use this system, the range of visible light would be from 4,000 to 8,000; and the range of ultraviolet light would be from 8,000 to 300,000.

Now it might be supposed that if a black body absorbed all radiation with equal ease, it ought to give off all radiation with equal ease. At whatever temperature it was, the energy that it had to radiate might be radiated at any frequency; the particular choice of frequency being purely random.

But suppose you were choosing numbers, *any* numbers with honest randomness, from 1 to 300,000. If you did this repeatedly, trillions of times, 1.3% of your numbers would be less than 4,000; another 1.3% would be between 4,000 and 8,000, and 97.4% would be between 8,000 and 300,000.

This is like saying that a black body ought to radiate 1.3% of its energy in the infrared, 1.3% in visible light and 97.4% in the ultraviolet. If the temperature went up and it had more energy to radiate, it ought to radiate more at every frequency but the relative amounts in each range ought to be unchanged.

And this is only if we confine ourselves to nothing of still higher frequency than ultraviolet. If we include the x-ray frequencies it would turn out that just about nothing should come off in the visible light at any temperature. Everything would be in ultraviolet and x-rays.

An English physicist, Lord Rayleigh, worked out an equation which showed exactly this. The radiation emitted by a black body increased as one went up the frequencies. However where, in actual practice, a frequency peak was reached after which, at higher frequencies still, the quantity of radiation decreased again, Rayleigh's equation indicated a continuing increase of radiation. More and more radiation was given off the higher the frequency.

Physicists referred to this as the "Violet Catastrophe"—the fact that every body that had energy to radiate ought to radiate practically all of it at once and practically all of it in the ultraviolet and beyond.

Yet the point is that the Violet Catastrophe did not take place. A radiating body did not get rid of its energy at once, but took its time. Furthermore it concentrated at the low frequencies. It radiated chiefly in the infrared at temperatures below, say,  $1000^{\circ}$  C. and it radiated chiefly in the visible region even at temperatures as high as  $6000^{\circ}$  C., the temperature of the Solar surface.

Yet Rayleigh's equation, which predicted the Violet Catastrophe was worked out according to the very best principles available anywhere in physical theory—at the time. His work was an ornament of what we now call Classical Physics.

Wien himself worked out an equation which described the frequency distribution of black-body radiation in the high-frequency range, but he had no explanation for why it worked there and besides it only worked for the high-frequency range; not for the low-frequency.

Black, black, black, was the color of the physics mood all through the latter 1890's.

But then arose in 1899, a Champion, a German physicist, Max Karl Ernst Ludwig Planck. He reasoned as follows—

If beautiful equations worked out by impeccable reasoning from highly-respected physical foundations do not describe the truth as we observe it, *then* either the reasoning or the physical foundations are wrong.

And *if* there is nothing wrong about the reasoning (and nothing wrong could be found in it), *then* the physical foundations had to be altered.

The physics of the day required that all frequencies of light be radiated with equal probability by a black body and Planck therefore pro-

posed that, on the contrary, they were *not* radiated with equal probability. Since the equal-probability assumption required that more and more light of higher and higher frequency be radiated, whereas the reverse was observed, Planck further proposed that the probability of radiation ought to decrease as frequency increased.

In that case, we would now have two effects. The first effect would be a tendency toward randomness which would favor high frequencies and increase radiation as frequency was increased. Second, there was the new Planck effect of decreasing probability of radiation as frequency went up. This would favor low frequencies and decrease radiation as frequency was increased.

In the low frequency range, the first effect is dominant, but in the high frequency range, the second effect increasingly overpowers the first. Therefore, in black body radiation, as one goes up the frequencies, the amount of radiation first increases, reaches a peak, then decreases again—exactly as is observed.

Next, suppose the temperature is raised. The first effect can't be changed, for randomness is randomness. But suppose that as the temperature is raised, the probability of emitting high frequency radiation increases. The second effect, then, is steadily weakened as the temperature goes up. In that case, the radiation continues to increase with increasing frequency for a longer and longer time before it is overtaken and repressed by the gradually weakening second effect. The peak radiation, consequently, moves into higher and higher frequencies as the temperature goes up—precisely as Wien had discovered.

On this basis, Planck was able to work out an equation that described black-body radiation very nicely both in the low-frequency and high-frequency range.

However, it is all very well to say that the higher the frequency the lower the probability of radiation, but *why*? There was nothing in the physics of the time to explain that and Planck had to make up something new.

Suppose that energy did not flow continuously, as physicists had always taken for granted, but was given off in pieces. Suppose there were "energy atoms" and these increased in size as frequency went up. Suppose, still further, that light of a particular frequency could not be emitted until enough energy had been accumulated to make up an "energy atom" of the size required by that frequency.

This would account for the fact that it took time to radiate energy and that it didn't happen all at once. Accumulation, after all, takes time.

Furthermore, the higher the frequency, the larger the "energy atom"

and the greater the length of time required to accumulate it. While the energy was accumulating, some of it would be lost as radiation of lower frequency that didn't require so much of an accumulation and matters would have to begin over. For that reason, an object at a temperature of  $400^{\circ}\text{C}$ . would radiate its heat in the infra-red entirely. So few "energy atoms" of visible light size would have a chance to be accumulated that no visible glow would be produced.

As temperature went up, more energy would be generally available and the probabilities of accumulating a high-frequency "energy atom" would increase. At  $6000^{\circ}\text{C}$ , most of the radiation would be in "energy atoms" of visible light, but the still larger "energy atoms" of ultraviolet would still be formed only to a minor extent.

But how big is an "energy atom"? How much energy does it contain. Since this "how much" is a key position, Planck, with admirable directness, named the "energy atom" a *quantum* which is Latin for "how much?" The plural is *quanta*.

For Planck's equation for the distribution of black body radiation to work, the size of the quantum had to be directly proportional to the frequency of the radiation. To express this mathematically, let us represent the size of the quantum, or the amount of energy it contains by  $e$  (for energy). The frequency of radiation is invariably represented by physicists by means of the Greek letter "nu." Unfortunately, I dare not ask the Noble Printer to search his sturdily American font for a foreign letter of possibly doubtful patriotism. Consequently, I will let frequency be represented by " $f$ " with a humble apology to every physicist who is still with me.

If energy ( $e$ ) is proportional to frequency ( $f$ ), then  $e$  must be equal to  $f$  multiplied by some constant. This constant, called *Planck's constant*, is invariably represented as  $h$ . The equation, giving the size of a quantum for a particular frequency of radiation becomes:

$$e=hf \qquad \text{(Equation 1).}$$

It is this equation, presented to the world in 1900, which is the Continental Divide that separates Classical Physics from Modern Physics. In Classical Physics, energy was considered continuous; in Modern Physics it is considered to be composed of quanta. To put it in another way, in Classical Physics, the value of  $h$  is considered to be 0; in Modern Physics it is considered to be greater than 0.

It is as though there was a sudden change from considering motion as taking place in a smooth glide to motion as taking place in a series of steps.





standpoint. It is  $1/2,500,000$  of your daily store. It is the amount of energy contained in  $1/113,000$  of an ounce of sugar, and so on.

Now imagine you are faced with a book weighing one pound and wish to lift it from the floor to the top of the bookcase, three feet from the ground. The energy expended in lifting one pound through a distance of three feet against gravity is just about 1 calorie.

Suppose that Planck's constant were of the order of a calorie-second in size. The universe would be a very strange place indeed. If you tried to lift the book, you would have to wait until enough energy had been accumulated to make up the tremendously-sized quanta made necessary by so large a piece of action. Then, once it was accumulated, the book would suddenly be three feet in the air.

But a calorie-second is equal to 41,850,000 erg-seconds and since Planck's constant is such a minute fraction of one erg-second, a single calorie-second equals 6,300,000,000,000,000,000,000,000,000,000,000 Planck's constants, or  $6.3 \times 10^{38}$  Planck's constants or about six and a third decillion Planck's constants, or about  $T-2.8$  Planck's constants (see T-FORMATION, F & SF, August, 1963). However you slice it, a calorie-second is equal to a tremendous number of Planck's constants.

Consequently, in any action such as the lifting of a one-pound book, matters are carried through in so many trillions of trillions of steps, each one so tiny, that motion seems a continuous glide.

When Planck first introduced his "quantum theory" in 1900, it caused remarkably little stir, for the quanta seemed to be pulled out of mid-air. Even Planck himself was dubious.—Not over his equation describing the distribution of black-body radiation, to be sure, for that worked well; but about the quanta he had introduced to explain the equation.

Then came 1905, and in that year, a 26-year old theoretical physicist, Albert Einstein, published three separate scientific papers, any one of which would have been enough to establish him as a first-magnitude star in the scientific heavens.

In one, he worked out the theoretical basis for "Brownian motion" and, incidentally, produced the machinery by which the actual size of atoms could be established for the first time.

In the second paper, he explained the "photoelectric effect" and showed that although Classical Physics could not explain it, Planck's quantum theory could.

This really startled physicists. Planck had invented quanta merely

to account for black-body radiation and here it turned out to explain the photoelectric effect, too, something entirely different. For quanta to strike in two different places like this, it seemed suddenly very reasonable to suppose that they (or something very like them) actually existed.

Einstein's third paper explained the Michelson-Morley experiment (THE LIGHT THAT FAILED, F & SF, June 1963) and set up a new view of the universe which we call "The Special Theory of Relativity." It is in this paper that he introduced his famous equation  $e=mc^2$ .

This third paper, on relativity, is by all odds Einstein's most famous work and it is *the* achievement for which he is known to people outside the world of physics. Just the same, in 1921, when Einstein was awarded the Nobel Prize for Physics, it was for his work on the photoelectric effect and *not* for his theory of relativity, that he was so honored.

(Each of Einstein's papers is worth a separate article, by the way, and, in good time, in good time—")

The value of  $h$  is so incredibly small that in the ordinary world we can ignore it. The ordinary gross events of everyday life can be considered as though energy were a continuum. This is a good "first approximation."

However, as we deal with smaller and smaller energy changes, the quantum steps by which those changes must take place become larger and larger in comparison. Thus, a flight of stairs consisting of treads 1 millimeter high and 3 millimeters deep would seem merely a slightly roughened ramp to a six-foot man. To a man the size of an ant, however, the steps would seem respectable individual obstacles to be clambered over with difficulty. And to a man the size of a bacterium, they would be mountainous precipices.

In the same way, by the time we descend into the world within the atom the quantum step has become a gigantic thing. Atomic physics cannot, therefore, be described in Classical terms, not even as an approximation.

The first to realize this clearly was the Danish physicist, Niels Bohr. In 1913, Bohr pointed out that if an electron absorbed energy, it had to absorb it a whole quantum at a time and that to an electron a quantum was a large piece of energy that forced it to change its relationship to the rest of the atom drastically and all at once.

Bohr pictured the electron as circling the atomic nucleus in a fixed orbit. When it absorbed a quantum of energy, it suddenly found itself in an orbit further from the nucleus—there was no in-between, it was a one-step proposition.

Since only certain orbits were possible, according to Bohr's treatment of the subject, only quanta of certain size could be absorbed by the atom; only quanta large enough to raise an electron from one permissible orbit to another. When the electrons dropped back down the line of permissible orbits, they emitted radiations in quanta. They emitted just those frequencies which went along with the size of quanta they could emit in going from one orbit to another.

In this way, the science of spectroscopy was rationalized. Men understood a little more deeply why each element (consisting of one type of atom with one type of energy relationships among the electrons making up that type of atom) should radiate certain frequencies, and certain frequencies only, when incandescent. They also understood why a substance that could absorb certain frequencies should also emit those same frequencies under other circumstances.

In other words, Kirchhoff had started the whole problem and now it had come round full-circle to place his empirical discoveries on a rational basis.

Bohr's initial picture was over-simple and he and other men gradually made it more complicated, and capable of explaining finer and finer points of observation. Finally in 1926, the Austrian physicist, Erwin Schrodinger, worked out a mathematical treatment that was adequate to analyze the workings of the particles making up the interior of the atom according to the principles of the quantum theory. This was called "quantum mechanics," as opposed to the "classical mechanics" based on Newton's three laws of motion.

I suppose, of course, you are all sitting on the edge of your seats saying to yourself, "And now Asimov will outline the mathematical aspects of quantum mechanics."

But I will do no such thing for I note—with infinite relief—that I have reached the end of the space allotted to me for my article.

And next month, I will definitely change the subject.



1923, that year of years, saw the birth of Simon Bagley in Kendal, Westmoreland, England (which we assume to be the original home of Kendal Brown snuff—alas, unobtainable in these United States—and therefore accord it double honors). By 1945 Mr. B. decided that he did not care for the climate of his native island; since air- and shipping lines were booked two years ahead, he “emigrated the hard way—by road to Central Africa via the Sahara.” He worked in the pulpboard factories of Uganda, the asbestos mines of Rhodesia, and the gold mines of South Africa, and is now a freelance technical/scientific journalist living in Johannesburg. His collection of SF, “600-plus volumes,” is estimated to be the largest in the country. We admire that, living 300 miles from the nearest yacht-able water, Mr. Bagley lists “yachting” as one of his chief interests. Although we hope that he will someday favor us with a story having a South African background, his present story could only have been written about one of two other countries in the world—so far! It may, of course, be later than we think. It usually is. N.B. This is not a Bomb story.

## WELCOME, COMRADE

by Simon Bagley

I HAD BEEN WORKING ON *Project American* for five years before I really knew what it was all about. Now that may be all right for the ordinary man-in-the-street who is an unobservant character at the best of times, but for a live-wire newspaperman like I was supposed to be it showed a lamentable

lack of whatever it is that goes to make a live-wire newspaperman.

I make this point to prove that *Project American* really was secret. Compared to *Project American* the Manhattan Project was the Voice of America, which is not a bad comparison because both were infiltrated by about the same

number of Communist agents.

You'll realise the degree of secrecy when I tell you that even the Pentagon didn't know about *Project American*. Some bright boy had reasoned correctly that where there are uniforms there are spies, so the uniforms were kept out and didn't even know that *Project American* existed. And this in spite of the fact that *Project American* was developing the ultimate weapon, the greatest weapon in the world. Of course, everybody knows today how successful it proved in practice.

It was some time early in 1962 that I had a drink with an old college buddy of mine, Jack Lindstrom. College had been the parting of the way for us; I had gone into newspaper work, while Jack had majored in anthropology, taken his post-graduate course and was now a coming big wheel in the academic world.

He dropped into the office one day and announced that he had just come back from some forgotten rat hole in the Matto Grosso and what about having a drink for old times' sake. Asking a hard-worked reporter to have a drink is like asking a mouse to have some cheese, so we soon found ourselves a quiet bar and were swapping lies about the good old college days over a couple of beers.

Then he told me a little about the work he had been doing down in Brazil while I kept making

mental notes because it had the makings of a good Sunday Supplement article if I could cut out all the really important bits and stick to the trivia.

After about an hour of this sort of chit-chat he said that he was going to join a research group which was going to apply anthropological techniques to the current American scene. He seemed enthusiastic about this thing and said it was the biggest project in modern anthropology.

"We're going to take the modern American apart and see what makes him tick," he said. "It's never been done before on a workable scale."

"What about Middletown?"

"Peanuts," he scoffed. "That was a survey of one town by a small group. We are going to survey the whole country. There'll be hundreds of us working at it."

"Where's the money coming from?"

"Most of the big foundations are coming in and I think that Uncle Sam is contributing. This is important to the Government, you know; when the results are finally evaluated the Government will at last have an accurate yardstick against which to measure policy."

"How long do you expect to take on this job?" I asked.

Jack shrugged. "Ten—fifteen—twenty years; who knows in a thing like this?"

"You're taking the cosmic view, I see," I said drily.

He ordered another couple of beers, then said, "Why don't you join us?"

I stared at him. "Look, Jack," I said, "I think you've got your wires crossed. I'm Johnny Murphy, the newsman. What the hell do I know about anthropology?"

"What anthropologist knows as much about the newspaper world as you do?" he countered. This thing isn't only for people like me, you know. We're recruiting from all the communication industries—radio, T.V., newspapers and weeklies. All the molders of opinion from Madison Avenue down to the Oshkosh Gazette. The fact is there aren't enough anthropologists to go round. We'll need experienced information gatherers and report writers. We'll need people like you."

He took a pull at his beer. "From a few remarks you've dropped you seem to be tiring of newspaper work, anyway."

That was true. Like all newsmen I had a secret hankering to write a novel. I was convinced I could write better than Hemingway if I really tried. I also knew that newspaper work ruins a man for serious writing and my only hope of getting down to a novel was to give up my job.

Jack said, "And the pay is not bad; it's probably better than you're getting now."

That was a big inducement. I was weakening rapidly. "What would I have to do?"

He leaned over the table. "Principally, you would form part of an information service. It suits us better to have informed men on the staff than to have to go outside the organisation every time we want the answer to a question. You would probably head the newspaper division if you came in now—your reputation is good enough.

"We would quiz you about the newspaper world—its functions and methods. If you didn't know the answers you would go out and get them. We think an ex-newsman has the contacts and a better chance of getting information out of his old colleagues than an anthropologist would."

"Somebody has been thinking hard about this," I said.

Jack grinned. "I tell you it's a big thing," he insisted. "If you come in now I think I could guarantee that you would be head of a department with your own staff of field men."

I thought about it for a bit, then said, "O.K. I'll talk to whoever is doing the hiring and firing. But there's one thing. Before I join I would like to write it up as a news story. If it's as big as you say I might get a nice fat parting bonus for breaking the story."

"Sure," said Jack easily. "There's nothing secret about it."

I didn't know it then, but I had

just been recruited for the super-secret *Project American*.

I got into the organisation easily. I don't know if it was because of the yarns Jack had been spinning or whether it was my own scintillating personality. Whatever it was it worked. I was made head of the newspaper division, and the first year was devoted mainly to organisational problems, getting things squared away for the big job.

There's a line of verse—"Not for an age, but for all time." That describes the organisation perfectly. It was BIG and everyone in it worked at a steady, unhurried pace that was deceptively slow but which got the work done even though the end results would only be seen half a lifetime away—or maybe a whole lifetime—or a couple of lifetimes. Nobody knew because a thing like this had never been done before.

I never really got used to it. I was a newsman and accustomed to working to a deadline. The work I had done yesterday was dead—there's nothing deader than yesterday's news—and the work of today would be dead tomorrow. Impermanence is the very fabric of a newsman's life, which is one of the reasons why a novel is impossible. I found it difficult to adjust to this new pace and to set my sights a little higher than tomorrow morning.

The men at the top certainly knew what they were doing. Within six months we moved into our New York head-quarters, a sizeable skyscraper in the familiar Aztec pyramid style. My own office was lush. A ten acre desk, a Turkey carpet, wood-panneled walls and more gadgets than you could shake a stick at. After I had installed a hidden cocktail bar I was open and ready for business.

I really pitied those guys back in the newspaper office, working on beat-up typewriters in the crowded and noisy newsroom. After a while, though, the quiet got on my nerves, so I moved my personal secretary from the outer office and put her desk in the corner of my office. I felt better then, I wasn't so lonely.

So we got the organisation into a working shape and after that I didn't have time to feel lonely, nor did I get to spend much time in my nice, luxurious office.

I traveled—how I traveled. After I had had my brains wrung out, as Jack had promised, I was sent to San Francisco to organise the West Coast Area office and from there to Chicago and then to New Orleans and a dozen other cities.

I answered questions—some of the damndest questions—and I recruited and I answered more questions and I organised yet another branch office and I got a lot of field teams on the road and I



answered some more questions and I failed to answer questions and I went out into the highways and byways to find the answers—and the years rolled by.

I didn't see much of Jack Lindstrom but sometimes our paths crossed and then we would get together for an evening and exchange organisation shop-talk. Once I met him in Columbus, Ohio, and we had dinner together. I was interested by then in certain curious aspects of the work I was doing and I wanted some answers for myself instead of finding them for other people.

Over the steak I said, "How many people do you think are working for the organisation now, Jack?"

He shrugged. "Must be a lot."

"That's what I mean," I said. "Funny, isn't it."

"What's funny about it? It's a big job."

"Yes, it's a big job; but what's it all for?"

"You know what it's for as well as I do," said Jack. "It's the biggest survey of its kind ever. We're getting masses of beautiful data." His eyes lit up as he said that. He was the typical scientist who can't see behind the data in front of his nose.

I said, "I wonder how many billions it's costing?"

"Billions?" said Jack doubtfully. "I don't think that . . . well, maybe . . ."

"Look, Jack," I said patiently. "My own salary isn't small, and I have over two hundred people working in my division and I know their salaries. Then there are the other media divisions—radio and T.V. and so on. They are not as big as mine but it all adds up. Then there are all the other divisions collecting all kinds of god-damn information from an evaluation of the national debt down to the sale of popcorn in theater foyers last Thursday week.

"On top of that there are the brains who analyse and evaluate all this stuff. In all, that makes up the working staff—people like you and me. Add to that the house-keeping staff—all the secretaries, stenographers, the cleaners and janitors and the electronics engineers who keep the computers from getting indigestion—and it adds up to a fair population. I estimate it as not far short of 25,000 bodies."

"As many as that?"

"Probably more," I said firmly. "And you can't hire that many people in a non-profit organisation like this without large slices of the tax-payers' money."

"I think I told you once that Uncle Sam was in on the act," said Jack.

"Sure," I said, "But there's a funny thing. This project isn't secret. Hell, I wrote it up myself before I joined the organisation. But it is being played down. Every-

body knows it's there, but nobody knows how big it is. To the public it's just another foundation up-in-the-sky inquiry. You know how the man-in-the-street thinks:— 'It's all very interesting, but what the hell good is it?'

I pointed my knife at Jack. "But I know a couple of Congressmen who, if they got wind of the kind of Government money that is going into this, would raise the dome right off the Capitol. It's a perfect vote-catcher."

Jack said softly, "I wouldn't tell them, you know."

"Why should I," I said. "It's my living. But if I ever saw a time-waster and a dollar-waster it's this project. Still, I'm cashing in on it, so why should I worry. But I wish I knew what it was all for."

Jack opened his mouth to speak and I held up my hand. "And don't give me any of that stuff about helping the Government to govern better. No government will spend billions to find out how to govern better. Why should they when they are convinced that they already know how to govern better than anyone else? What's more, they can prove it, too; didn't the voters say so in the election, and voters are never, never wrong. Hell, boy, you've never met any dyed-in-the-wool politicians."

Jack said, "Well I suppose the Government knows what it's doing." He seemed uneasy. "I wouldn't worry about it. Just carry on

the grind and take home your excessive pay check."

"Sure," I agreed. "I've got a job for life."

I decided that Jack wasn't as high in the organisation as I thought he was. I had got as much information out of him as would fill a gnat's eye, so I dropped the subject and started to talk about something else.

I was wrong about Jack because two days after that not-very-illuminating conversation I was pulled back to the New York office and put through the hoops.

The name on the door said J. L. Haggerty and he was a tall, thin-faced man with white hair and eyes like a double-barrelled shotgun. He flicked away his secretary who had escorted me into his office and said, "Sit down, Mr. Murphy." His voice was as cold as his eyes.

He put his hands flat on the top of the desk, and said, "I hear you have been putting in some overtime thinking about the ultimate aims of this organisation."

There wasn't much I could say to that because it wasn't a question—it was a flat statement. If it wasn't for the way he had said it I would have thought that it was a preliminary to congratulations and promotion. Anyway, I just nodded.

His eyes glinted. "And further, you have been thinking aloud,

thinking in public where people can hear."

I dropped the idea of promotion on the carpet and let it lie. This was no promotion, it was a bawling-out. Haggerty's voice was nasty.

I said cautiously, "I have been wondering about some things. Mostly the scale of this operation."

Haggerty merely nodded and dropped his eyes to a file which lay before him. He turned a page and said, "Apparently you're a professional snooper—a good news reporter. Fortunately for you you're clean, not a stain on your record. No Communist affiliations—no contacts with fellow-travelers—you don't even see European movies."

I looked at the file again, startled. It was a thick file, about four pounds deadweight. If that was my dossier, Haggerty knew more about me than I did. I started to sweat gently.

Haggerty looked up and pinned me with his eyes very much as a bug-hunter would pin a butterfly to a card. "I have to tell you that if it wasn't so, if you weren't clean, if you had so much as tipped your hat to a man who knew a man who had read *Das Kapital*, I'd have you shot. It would lie heavily on my conscience, but I'd do it."

I believed him. Looking into those eyes I believed nothing else.

He cleared his throat. "You're

lucky, Murphy; I'm not going to have you shot. Instead, I'm going to tell you all. I'm going to let you in on the rest of the secret. You'll have to take an oath of secrecy, which means that if you do open your mouth again after taking it I can have you shot *without* having it on my conscience. Is that clear?"

It wasn't, of course. I had no idea of what he was talking about. But the basic meaning came over loud and clear. I had stumbled over something I shouldn't. I didn't know what it was, but I had stubbed my toe on Security and whatever was on the fire was hot. I was hot, too; I was sweating more than gently now.

I said, "I understand."

Haggerty said coldly, "You understand nothing—yet." He thumbed the desk communicator and said, "Have Mr. Lindstrom come to my office."

Then he looked up and smiled thinly. "We heard you were thinking aloud to some effect, so I sent Lindstrom to find out exactly what you were thinking. It was dynamite. Do you know exactly what it was that brought you to this office?"

I shook my head wordlessly.

"It was that stupid remark about you knowing a couple of economy-minded Congressmen." His voice hardened. "Congress doesn't know about this, neither does the Senate. There's not more than a hundred people in the

country who know exactly what's going on in this project.

"We couldn't take the risk of your talking to people who have both the ability and the desire to stir up trouble, and that's why you are being let in on the secret—so you'll know why it must be kept. It's a matter of 'if you can't lick 'em, join 'em'—and you are joining." His voice had the right tone of finality.

He hefted the dossier and let it fall with a dull thump. "I *know* your'e a patriotic American. I *know* I can trust you."

I said, "To be honest, I don't know what this is all about; but whatever it is, you can trust me."

He gave a wintry smile but said nothing. Just then Jack Lindstrom came in and Haggerty said, "Well, let's get this over with." He rummaged in his desk and came up with a thick folder which he shoved at me. "Read that," he said.

I dutifully read it. It seemed to be the standard security oath plus a lot of other stuff about assigning patents to the Government if I invented anything—which seemed highly unlikely. I got to the end of the legalistic jargon and looked up.

"Have you read it?" demanded Haggerty.

"Yes."

"I have to ask you this question legally—do you understand what you have read?"

"Yes."

He barked a quick laugh. "You're a liar. Nobody but a lawyer could understand that stuff, and he'd have to study it for a couple of days. But let's get the main thing straight. If you breathe one word about the project from here on in, you are a dead man. Understand?"

I swallowed and nodded.

"O.K. Sign it—every page."

So I signed every page and Haggerty and Jack countersigned as witnesses. When we were through Haggerty said, "O.K. Jack, take him away and put him through the works." He seemed suddenly tired of me.

Jack said, "Everything? Even you-know-where?"

Haggerty gestured. "Everything; no use in half measures. Besides, I've always found it a good policy to trust the press. If you play ball with the press, the press will play ball with you."

He pointed to me but spoke as if I wasn't there. "This man is still a pressman at heart. Maybe he'll come in handy when it's all over, explaining things to his public in words of one syllable."

With that he waved us out.

When we got outside I turned to Jack and said, "Will you tell me what the hell this is all about."

He grinned. "You've jumped into the middle of the biggest secret since the Manhattan Project. It will take a bit of explaining."

"O.K. Let's go down to my office and talk about."

He shook his head. "Nothing doing. You're one of the elite now. You are moving up and someone else is taking your place here."

We turned into a bare office and Jack said, "Stick around here for a while, and don't go away."

So I stuck around. After a few minutes a mousy little guy came in with a Leica and wanted to take my photograph. I let him. A quarter of an hour later a beefy guy came in and wanted to take my fingerprints. I let him. Two minutes later a pert nurse came in with a hpo. *She* wanted a blood sample. She got it.

Eventually Jack came back and gave me a card on which was my photograph and a facsimile of my fingerprints. It appeared that I worked for Carson Electronics as a member of the office staff. I was a Junior Personnel Officer.

I went with Jack to the garage and we drove out in his car. As soon as we were moving I said, "Now, tell me what this is all about."

He said conversationally, "Normally a moving car is considered a good security risk for a private conversation. This car is checked continually, but it might still be tapped, so I tell you nothing until we get to where we are going."

"Where *are* we going?"

He gave me a look which shut me up.

We went to an airport and boarded a civil plane which was waiting for us. The plane flew west for a long time, then landed on what seemed to be a private airfield. We got into a car which was waiting and drove off the field into open country. After half an hour we arrived at Carson Electronics. I knew it was Carson Electronics because a big sign said so.

Jack said, "Carson Electronics is working on classified projects for the Air Force. Therefore there are plenty of security regulations. It has a very enlightened management-worker relationship and provides plenty of facilities. There's a club-house with a swimming pool, a cinema and lots of other trimmings to keep the staff happy and contented. So nobody wants to leave Carson Electronics even though it's nowhere near a town."

We swung up to a gate which opened and then closed behind the car leaving us in a small enclosed yard. Jack got out of the car and I followed. As he slammed the door he said, "That's the cover story, of course, in case anyone gets over-interested. Up to now nobody has, as far as we can judge. It's not all cover, though. Carson does ship out quite a lot of stuff to the Air Force just to make the cover convincing."

A man came out from nowhere and Jack handed over his security card, so I did the same. Then we

went through a door which led into a block of offices. Jack showed me a room not much bigger than a phone cubicle. "This is where you hang your hat and do whatever we give you to do—if we can find anything. It's going to be a problem," he said pensively.

I got the picture and felt depressed. I was deadweight; just somebody taken into the fold to shut him up. I said acidly, "Now can I be informed what is going on? What has an electronics outfit got to do with anthropological research? And why all the cloak and dagger?"

"All right," he said, "This is where you are told. I'll give you the bones of it, enough to make sense, and you can fill in from the rest of the staff." He brightened. "Now why didn't I think of that before? You can be the historian of *Project American*."

"*Project American*?"

"The organisation you used to work for is half of *Project American*, the half we couldn't keep entirely secret. This is the other half, and it's *all* secret."

I sighed and Jack grinned and threw up his hands. "All right, I'm coming to it, but it's a bit complicated."

I said stubbornly, "All I want to know is how an anthropologist gets mixed up in electronics."

"Well, I was one of those who first proposed this thing. Several of us in different fields first saw the

possibilities. That's why I'm in it so deep." He grinned sourly. "I'll bet I'm the only anthropologist who ever worked himself out of a job."

He saw my expression and hurried on. "It's this way. Why was the airplane invented in 1903?"

I blinked. "Uh—because the time was ripe, I guess."

Jack nodded. "Give the man a cigar." He ticked off points on his fingers. "There could be no airplane without the gasoline engine, so that had to come first. It had to be a lightweight engine, so there had to be aluminum. To extract aluminum takes electrical power and plenty of it, so it follows that without an electrical technology there could be no airplanes.

"What I'm getting at is that any specific development is the resultant of the whole of a particular culture. It doesn't matter where the culture is—it could be on Mars or Venus."

"Hey, are there extra-terrestrials and space travel mixed up in this thing?"

He chuckled. "Not quite, although there is a satellite which we are going to use in the project."

"Brother," I said. "Now you've got me really lost."

"I'm getting to it," he said. "Now it happens that sometimes a few apparently unrelated sciences will make sense if you look at them all together. It happened in the early 'forties with cybernetics

and it's happening now in *Project American*.

"In *Project American* there's a lot of electronics, a sizeable piece of psychological theory relating to hypnosis, a big slice of neurology, as much space theory as we need and, what makes the project what it is, my own contribution of anthropology.

"What happened first was that the neurologists and the psychologists got together on the problem of hypnosis and licked it. In the past there were as many theories of hypnosis as there were hypnotists—it was a messy field of research. It was known that hypnosis is a purely mechanical process—people have been hypnotised by a phonograph record, for instance—but now we know what it really is."

"What is it?"

"I couldn't explain it to you," he said kindly. "I don't know myself, it isn't my field. All I know is that it has something to do with the electrical conductivity at the synapses—the nerve junctions. Alter the conductivity selectiviely and the subject thinks different thoughts, his thinking goes through different channels. That's an outrageous simplification, of course.

"Luckily, all this work was classified from the beginning because it was part of a study on how to combat the Red brain-washing techniques. What hap-

pened next was that one of the neurologists had a flair for electronics—he used to build his own experimental equipment—and he invented a gadget that would alter the electrical conductivity from the outside, mechanically and at a distance."

"You mean a beam or a ray—something like that?"

"It was more like a field. Of course, by now it really couldn't be called hypnosis; it was beyond that. The neural field, when properly operated, changes the brain of the subject *permanently*. That is, you turn the field on, turned to the desired pattern and the subject mental pattern changes to conform. You turn the field off—the subject *stays changed*."

I thought about that for a while, then said carefully, "What you have here, to all intents, is a super brain-washing machine."

Jack nodded. "That's right, but we don't like to use the term 'brain-washing'. We call it a readjustment machine. And that's how Harrod thought of it—he's the guy who whipped it together. His idea was that it would be an adjunct to the psychiatrist's couch—that it would cure insanity. Which, of course, it will; it has a great future in that field."

I thought of all the tens of thousands of the insane and the millions of neurotics who could now be straightened out and brought back to humanity.

"And that's how the declassification officer saw the situation," said Jack. "It stayed declassified for 36 hours; that's when I got to know about it. I discussed it with a couple of people and we wrote an urgent letter to an Important Man. Then someone saw the light and clamped down on it again."

He saw the expression on my face and said hastily, "Don't worry, it won't stay classified forever. But we have one big job to do first, a job more important than curing the insane."

"What can be more important than that?" I said flatly.

"Uniting the whole of humanity," said Jack calmly.

I stared. "Are you sure you aren't a candidate for this neural field yourself?" I asked.

"We are all candidates," he said soberly. "Now hang on to your hat while I give you the big picture. Harrod's prototype machine had several drawbacks. It was underpowered and it wasn't directional. We have improved it but it's still a field and not a beam. That doesn't matter in view of what we are going to do with it; in fact, it's an advantage.

He rubbed his chin. "Do you know what causes wars?"

The switch confused me. I said, "Who knows? We've been having wars as long as the record shows, but no one has taken the trouble to find out why."

Jack smiled. "We anthropolo-

gists have taken some trouble but most of our results lie buried in the journals where policy-makers don't see them. As near as we can make out, war is the result of a clash of cultures. A difference of culture means a difference of outlook. One set of people thinks north and south, another set thinks east and west, result—misunderstanding and violence.

"Occasionally we come across a cohesive and isolated community like the Zuni Indians. They don't even have a word for 'war', or they didn't until we taught them."

I said, "That doesn't account for civil war."

He nodded. "You're sharp," he said. "But it doesn't take too much difference to start a war. Take the War of the States. This country was split into two differing cultures; the agrarian and feudal South and the industrial and democratic North. The two cultures couldn't co-exist under the same rule; one of them had to go. Violence is the only answer that man has found which decides which culture will survive—until now."

He stopped to let me think. I said, "Go on. You're coming to some kind of a point."

He tapped on the table. "This machine is the answer. You see, I got the idea of processing the whole of humanity, giving all mankind a common basis of thought, a common culture. But humanity won't sit still to be



processed. Besides, the job has to be done all at once. The way to do that is to build a very powerful machine, put it in a satellite, whirl it round the earth and bathe the whole planet in the neural field for as long as it takes."

I took a deep breath. "You mean that you are going to impose a standard pattern on to the minds of everyone on earth?"

"Yes."

I didn't say anything more for a long time. This was too big to be taken in all at once. All sorts of thoughts chased through my mind. Eventually I said, "What pattern are you using?"

"That was the joker that caused a lot of argument among the boys at the top. There was a lot of wooly talk about the 'ideal man'. A crowd of philosophers were consulted about what constitutes the 'ideal man' and they got nowhere." He shook his head sadly. "For every philosopher who says one thing, you can find two to contradict him. It was a mess; the whole project nearly bogged down there and then."

I said, "I can understand that. It's a difference of opinion that makes a horse race—and a political free-for-all. What happened next?"

"Well, I had thought up this project, so they passed the buck back to me. I said that they should stick to science, stick to things that can be measured and forget

ideals. And that is what is happening. We set up a program to find out what makes an American an American—that's the outfit you have been with until now. When we find out, that will be the pattern we will use."

I dropped my head in my hands. "Boy, now I've heard everything." This thing was explosive; no wonder it was secret and no wonder Haggerty shut me up so fast. If one word leaked out, the H-bombs would start flying in the next hour. The Russians wouldn't stand still waiting to be helplessly Americanised. Neither would any other nation.

I said, "But this is imperialism—mental imperialism. It's not the sort of thing we do."

Jack's voice was grim. "It's the sort of thing we've got to do. You put your finger on the problem yourself when you said 'the time is ripe'. If we don't do it you're liable to wake up one morning thinking that Charlie Marx was the greatest man who ever lived."

His voice softened. "This is the greatest of all weapons—and the last of them. When this is all over we can all start disbanding the armies and junking the stockpiles of bombs. The world can take a deep breath of relief, look around and start a good house clean. The only thing is that I will have worked myself out of a job; there'll only be one culture to study and that will have been studied to a

frazzle in order to get the big job done in the first place."

I shook my head. "It doesn't seem right."

"You're an American. Don't you like being an American?"

"Sure I like it."

Jack shrugged. "There's worse things than being an American and worse ways than the American way of life."

He stuck his finger under my nose. "We Americans are good people. We took this continent and shook it up. We have the highest standard of living in the world, the highest industrial production in the world. We are licking disease and our hospitals are the envy of the world."

"Sure, we're good-hearted on the whole and we like to see that other peoples don't get a raw deal. So we give and give and give. But we can only give dollars. People are human, whether they're Europeans, Africans or Asiatics; they dislike and resent charity. They take it because they need it, but they don't like taking it."

"All that we Americans have was produced by the way we think. All the we are doing by *Project American* is to pass on that way of thinking to everyone else. Boy, the world will really start booming when this project goes through."

I shook my head dizzily. I was thinking of 600 million Chinese Americans and 450 million American Indians—the Eastern kind.

Jack went on talking, but softly, as though more to convince himself than to put me in the picture. "We, on this project, are like the atomic physicists of the 'forties. We've got a tiger by the tail and we dare not let go because, if we do, somebody less sympathetic will grab it. But some of us working here are sick to the stomach at what we're doing. I know I am, and the whole thing was my idea."

Suddenly he grabbed my hand and held it. "Johnny, do you think we're doing right?"

I shook my head. "Jack, I don't know; I really don't know. I haven't had time to think about it; this thing has been sprung on me." I thought a little and said, "Maybe you would have been better advised to have stuck to the ideal man gambit."

He gestured. "Who knows what is the ideal man. We have to work with what we know."

I said, "Well, under the circumstances, you can't do anything else. Being an American isn't bad—for an American."

He sighed, and said, "Well, that's it. You can fill in the details yourself when you see the other people on the project. As from now you are the Project Historian. And there's one other thing. You don't leave Carson Electronics until the project is through."

I protested, "What the hell. . . .?"

He smiled grimly. "Orders. Not

mine. Haggerty's. Come on, I'll show you your quarters."

I followed him meekly, thinking bitterly of Haggerty's strange ways of putting his trust in the press. But under the circumstances I couldn't say that I blamed him. Not one little bit.

Carson Electronics was the most luxurious jail I've ever been incarcerated in. The club house was up to Westchester Country Club standard and had tennis courts and a golf course adjoining. The theatre showed the latest movies every night and the bar was well stocked.

At first I malingered a lot, but time began to hang heavily so I got down to my sinecure job of historian. From what I had heard I would be at Carson for a long time so I thought I had better keep the brain cells exercised.

It was not a big place, at least not the section dealing with *Project American*. This was really a shoestring operation—all the big money was being spent outside on the anthropological survey. The 're-adjustment' machine was to fit into a small satellite and, while it was complex, there was not an excessive amount of it. There was nothing of the immensity of the old Manhattan Project which, of course, was a great help as far as security went.

I talked to all the men working on the project. There were the anthropologists who processed the

raw data coming in from outside. This data had already been given a preliminary screening so there wasn't as much of it as you would think. With the help of mathematicians the data was transformed into sets of equations which the electronics boys could push through their circuits.

One engineer confessed that he had never designed such crazy circuits in his life. "Look," he said, and switched on an oscilloscope. On the screen appeared the green trace of a waveform which looked as though it had been designed by Picasso when he was drunk.

"That's just the preliminary basic," he said. "I'll have to superimpose a lot of stuff on top of that before we're through."

The project was infiltrated by psychologists and neurologists keeping a careful check on all aspects of the operation, making sure that only the stuff they wanted got by. One man I didn't get to see was Harrod, the genius who had started all this. He had cut his throat with an old-fashioned straight razor just before the operation got under way.

Heading the project was Dr. Paul Harden, who had degrees in both psychology and neurology. As Project Historian I got very friendly with him—and he with me; the man had an eye on the future and a keen sense of personal publicity. He explained in much more detail what the project was

designed to do, including a lot of stuff that Jack had been pretty vague about.

"We're not interfering with free will, or anything like that," he said. "But we *are* reforming humanity in the American mold. The Russian who is a son-of-a-bitch now will still be a son-of-a-bitch when we're through with him; but he'll be an American son-of-a-bitch."

I said, "There's a point I don't understand. You say that you are not really changing people's political convictions, but at the same time you say that the politics of the people will change. Isn't there a contradiction?"

"Look at it this way. An Italian has Italian habits of thought which have been conditioned in him by his Italian environment. So he emigrates to America. Slowly he adopts American habits of thought—more quickly if he is a younger man. He is the same man but his thoughts are expressed outwardly by different actions. For instance, in a fight he will tend to use his fists rather than a knife because fist-fighting is an American mode of aggression.

"He doesn't go the whole way to Americanisation because the habits of the old country die hard, but his children are pure American. The same thing would happen in reverse if an American was transplanted to Italy, of course.

"Now, what we are doing with

this gadget is a sort of forced training or conditioning. The American mode of thought will be indelibly impressed upon all minds, which will mean that in any given situation people will tend to respond with an American mode of action. They will indicate their political preferences by voting democratically instead of throwing bombs; the Orientals will lose their preoccupation with 'face' and will become more understandable to us.

"But they'll still be the same people with the same odd quirks. The dyed-in-the-wool English conservative will still have the same political views, but he'll probably vote the straight Republican ticket. The French radical will still vote radical but in the American tradition."

I said, "So the Russians will give up Communism because that isn't a natural American mode. They'll adopt our system."

"Precisely."

"And there will be no tendency to fall back into the old patterns because everybody will have been treated simultaneously," I said thoughtfully.

"That's right; they can't fall back because there will be nothing for them to fall back on. It's a self-reinforcing system of education." He beamed at me. "Wonderful, isn't it?"

I thought that Dr. Harden didn't seem exactly weighed down

with doubts about the moral and ethical questions raised by his work. And he was right; it *was* wonderful. But I wished the damned thing hadn't been invented. Sure, we were falling over backwards to be fair to everybody, to see that the democratic process continued. But sooner or later some fanatic would rise who, like all fanatics, would like everyone to think precisely as he thought, and then humanity would be on the quick road down to a termite civilisation.

But—"the time was ripe"—if we didn't do it then someone else would, and I'd hate to be condemned to a life of ancestor worship, for instance.

So the time went on. After three years the machine was ready for hoisting into orbit. The only thing holding up *Project American* was the anthropological survey which was not yet completed. It was a tricky job ensuring that the big broadcast would contain the quintessence of Americanism and only that. No chances could be taken.

The data was gathered and sifted and evaluated and the outside organisation grew bigger and bigger. Harden told me that there were 60,000 on the staff and the camouflage was still holding out. Apparently, after I had nearly gummed up the works they had brought in a sort of cell system, so

that it was impossible for any one man to even guess the size of the organisation.

When they started to assemble the satellite I knew that the time was near. I asked Harden how long the operation would take once the bird was in orbit. He rubbed his ear and said cheerfully, "Oh, about a week should do it. The effect is cumulative and I expect we'll let it go on a bit longer, of course. It's a polar shot, you know; it will give us complete coverage." He sounded like a sharp Madison Avenue account executive.

There was a point I was still curious about. "What is the effect on native Americans?"

"Nothing much. Just a reinforcement of Americanism. It will have hardly any effect at all." He grinned suddenly. "The Un-American Activities Committee will go out of business permanently, though."

The tension grew at Carson. A week before the shot was due the entire area was sealed off and everyone was jittery. The bar was selling more liquor than usual and there were some heavy losses at poker.

Two days before the shot was due Harden called a meeting for all hands to be held in the club house. I had woken up late and my head felt muzzy although I had not been drinking too much. I got to the meeting feeling as though my head was stuffed with cotton.

Harden and half a dozen departmental heads were at a table on the stage and, after a couple of minutes, Harden stood up and thumped loudly on the table with a gavel.

"Comrade scientific workers," he said. "I have called this meeting so that we can elect a properly constituted Workers' Committee for this organisation."

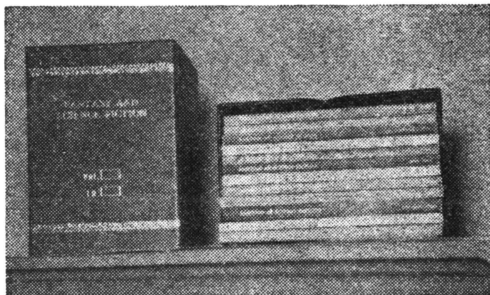
I stuck up my hand. "I nominate Comrade Doctor Harden as

Chairman." It seemed the right and proper thing to do.

Somebody else yelled, "I second that," and the motion was carried.

Comrade Harden held up his hand and stopped the cheering. "Comrade scientific workers; it must be obvious to you by now that the great and glorious Soviet Union has once again shown its natural superiority over the capitalist-bourgeois-imperialist powers."

All we Communists cheered.



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*Major J. P. Sellers [PETE GETS HIS MAN, F&SF, Dec. 1963] of the British Army makes a welcome return to these pages with a curious account of the curious telephone calls to the misfortunate Mr. Prosser . . . or, at any rate, to one of him.*

## URGENT MESSAGE FOR MR. PROSSER

by J. P. Sellers

THERE'S SOMETHING URGENT and compelling about a telephone ringing in the middle of the night in an empty office block. It clamours for someone to answer it. But I didn't. Probably some drunk ringing for a taxi and got the number wrong, I thought. Eventually it gave up ringing and the silence was thicker than ever.

You get used to that sort of thing when you're a night watchman in a block of city offices. 'Assistant Security Officer' is my official title but I prefer to call a spade a spade. A rodent control officer doesn't control rodents, does he? He catches rats if he's any good.

Not that I needed the job, my pension being sufficient and no wife and family. But after twenty

two years in the Navy it goes against the grain to be idle. And there's something special about a night job: you see life back to front, so to speak. You pity the anxious faces going in the opposite direction each morning with half asleep in their eyes and half breakfasts in their stomachs; then in the evening you meet them rushing home to cook the supper or to a nagging wife or both, whilst I've got the whole evening to do a bit of thinking which I do a lot of and read a book or two. Give me a night watchman's job every time. Sorry, Assistant Security Officer.

When the telephone rang again at exactly the same time the next night I got to thinking what if it was a gang trying to case the joint

or someone going to offer me a quid or two to pass on a little confidential information, there being plenty of it lying around in the office and civvy street being a dirty, cut-throat business after the Navy. Well, if so they had the wrong chap, I'll tell you. From the day I came aboard Prosser's Limited I was one of the ship's company and not for sale.

The odd thing is that in the three years I had been there I had never clapped eyes on Mr. Prosser, the skipper. But I knew a great deal about him, just the same. Take the whisky bottle in his desk cupboard, for example. He was either very generous with it or he soaked it like a sponge. Soaked it, I reckon, judging from the pills and tablets on his desk, pills for his heart, pills for his stomach, pills for pretty well every part of his machinery. And the doodles covering his blotter every day just like a Picasso, real horrible. Harry, who is one of the clerks and a mate of mine, said that Mr. Prosser was a rare one, all temper and indigestion. He lived off his nerves, Harry said, and his wife was a bit of a tart by all accounts, a bit too fond of living it up with other women's husbands.

When a telephone rings once, that's chance. Twice is a coincidence and three times is more so. But four times on the trot at one o'clock in the morning is going it

a bit.

I plugged the switchboard jack into its socket. "Hello, Prosser's Limited," I said, feeling a fool.

"Hello. Is that Prosser's?" It was a man's voice, very excited.

"Yes. Prosser's Limited here." The dialogue was as crisp as a corny ENSA sketch.

"Is that Mr. Prosser?"

Stone the crows! At one in the morning? Some hope! "No, sir. Mr. Prosser's not here."

"Can I speak to him?"

A real nut case! "He's not here, sir. It's one o'clock in the morning." And all he has to say now is 'Oh is it, my watch must be a bit slow' and I've heard the lot.

"One o'clock in the morning?" The voice was vacant, not concentrating. "Oh, yes. But I want to speak to him. It's urgent."

I'm a patient cove. I've met some rum ones in my time in the Navy, officers included. Officers chiefly, come to that. "I'm afraid Mr. Prosser won't be in until tomorrow morning. Tennish. It's the middle of the night and I daresay he's gone to biddy-byes." Well, if he wants to take the Mickey!

"But it's urgent. I can't wait until tomorrow."

"Then you'll have to ring him at his home, won't you? You'll find the number in the book." I put the 'phone down. I'm a patient bloke but there are limits.

Well, blow me down if he did-



n't ring again the very next night. Dead on one o'clock it was.

"Hello, Prosser's Limited here."

"Mr. Prosser?"

"No. Are you the gentleman who rang up last night, sir?"

"Last night? Did I? I must speak to Mr. Prosser. It's urgent." He sounded as if he'd just run a four minute mile.

"But he isn't here, sir. It's the middle of the night. I'm Bill Brewer, the Assistant Security Officer."

"You're not Mr. Prosser, then?"

"No sir. If it's important you should ring him at his home like I said last night."

"Did you?" There was a long, breathy pause like a steam engine.

"Can't you leave a message?" I asked.

"No. Yes. I mean no, I can't leave a message. Don't ring off." That bit gave me the shivers because I'd just been about to put the receiver down and I felt him looking over my shoulder. "Don't ring off. Please listen to me. You've got to help me." His voice was crying and for the first time I felt sorry for him. He said: "Tell Mr. Prosser . . . tell him . . ." he hesitated then the words came out with a rush, ". . . tell him his wife is trying to poison him."

"His wife is trying to poison him? Now look here, just who are you?"

"I can't tell you. Just tell him what I said." Then he rang off.

Now there's a tricky situation. What to do about that, I wondered, as I took a pull at my dinner-time pint of old and mild and cut a chunk off the Veal and Ham pie in Fred's pub near my digs. Should I tell Mr. Prosser or not? I'd been brought up in the service to take decisions. That's what my paying off papers said, 'uses his initiative'. In the service you got a thick ear for troubling your superiors with problems you could handle yourself and rightly so. I'd just see what happened over the weekend, I decided, and I reckoned I'd taken the right decision because on Saturday and Sunday nights nothing happened. Some crank, I judged, not quite right in the head; or a drunk but if he was he carried his grog well.

But on Monday night he was back again. He asked: "Did you pass on my message? Did you?"

"No. I did not. What's your game, mister? Who are you and what are you up to. You're just a ruddy nuisance. Now . . ."

"You didn't tell him? But you must. Oh, my God . . ." and he started to cry. Little sniffs of crying at first then great big gulping sobs that started in his chest and heaved up through his throat and nose. He sounded for all the world like a dog who's been given a thrashing unjustly. I can only remember a man crying once before and that was Sam Strangeways when we were torpedoed in the

Atlantic but I reckon he had something to cry about because he'd lost a leg and his guts were hanging out. It was a terrible sound and for the life of me I couldn't put the 'phone down though I wanted to. I'd got to get to the bottom of this or we were going to have this carry on every night.

"Now look here, sir, just calm down and tell me about it. Perhaps I can help."

After a bit the sobs stopped. "Yes, help me. Tell Mr. Prosser what I told you. His wife is trying to poison him. He must know, he must be warned."

"But I must know who you are. I can't just go to Mr. Prosser and say what you said without knowing who you are. Can't we meet somewhere?"

"Yes. Come straight away. I'm in an all-night cafe off The Strand near Charing Cross station. It's called *Tom's Tavern*." Then he rang off.

I pondered that one. What's best for the ship, I thought? Slip out for a bit and get to the bottom of it or sit tight? What if it was a ruse to get me out of the way? If it was it was a damned clever one. But there's a compromise to most things and I soon had Joe Lamp-ton the copper off the beat installed in my chair with a cup of coffee which he often stepped in for though don't tell his Sergeant and a newspaper and I was away.

"Only for an hour, Bill," he said. "You ruddy Casanova, you!"

It was about three o'clock when I leaned my motor bike up against the pavement outside *Tom's Tavern*, a threadbare little place all bangers and chips and cracked cups and prostitutes going off the job and navvies coming on. The sort of place that breeds thuggery and petty thieving. I went in and looked round the room. There were only three people in the place so far as I could see, a man wearing an apron behind the counter, a youth who a couple of years in the Navy and a toe up the backside now and again would have done no harm to and a blousy, peroxide blonde who looked away when she saw I wasn't interested. The youth said: "Close the bleeding door, mate. Perishing wind fair takes the steam off me flipping coffee, don't it?" He sniggered at his joke and looked sideways at the blonde sitting on the stool at the end of the counter. She scratched a knobbly nylon knee, sniffed, yawned and tossed her head.

I ordered a cup of tea and sat at the counter. The man in the apron looked over my shoulder and shouted: "Hey, mate, what about ordering another cuppa or something? I know we're an all-night caff but we're not a flipping doss house." I turned and the shoe-string tie turned too. He said: "He's taking a flipping liberty,

ain't he mate? Hey, Grandad, wake up there. There's a nice young lady here willing to oblige you for a tanner or two. Half price after three o'clock, ain't it ducks?" She sniffed again, slid off her stool and flaunted out, a rippling, bulging bundle of too much flesh packed into too little clothing.

I hadn't noticed him when I came in. If I had, I had taken him for an overcoat someone had left on a chair because that's what he looked like. He was in the corner of the room with his back to me and his head was drooped forward right out of sight. I walked over to him. He was asleep. His little ginger moustache and purple and orange lined eyelids were incongruous, improbable blotches of colour on a face and head which were otherwise of a uniform suety texture. His head was more of a job for the window cleaner than the barber. He looked all spent and despairing like the voice on the telephone.

I sat down opposite him. I rattled my tea cup and pushed the table so that it pressed against his legs. The tired eyebrows lifted, fell then lifted again revealing eyes of a cornflower blue, watery and unseeing. They stared at me vacantly, trying to focus.

"I'm Bill Brewer," I said.

"Bill Brewer?"

"Yes. We spoke on the blower a while back."

He digested this with difficulty

then said: "You've been a long time."

"I did my best," I countered. "Can't drop everything and jump for the liberty boat at the drop of a hat."

He shivered and pulled his crumpled overcoat tightly around him. Underneath he wore a dark grey suit and yesterday's collar and tie. With a bit of a wash and brush up he could have been smart.

He became more alert and leant across the table. "You simply must pass on my message. You must. A life depends on it."

"What's your name?" I spoke quietly because the apron and the winkle pickers were looking at us with interest. "Who are you?"

He looked stupidly at me. "I have to warn Mr. Prosser," he said.

"Then why don't you go to his office?"

"I can't."

"Then telephone him."

"I have done. But he's never there. It's always some fool of a man who doesn't understand."

Thanks very much, I thought. "Well you can't expect Mr. Prosser to be in the office in the middle of the night, can you now?"

"In the middle of the night? Does he go to the office in the middle of the night?"

There wasn't much value to be got out of talking to a man like that, was there? I said: "I reckon you ought to see a doctor." I said

it kindly and I meant it but you'd have thought I'd suggested putting him in a straight jacket or something the way he jerked up-right and pushed his chair back. "No," he cried. "I can't." Then he looked at his wrist watch. "My God, look at the time."

And before I could stop him he rushed out and his chair fell to the floor with a clatter. The crew-cut said: "That's right, Grandad. Hurry along and you might catch her. Half price after three o'clock." I went outside quickly but there was no sign of him.

When I've made up my mind to do a thing I get on with it. After a bit of breakfast I 'phoned Miss Ellsmore, Mr. Prosser's private secretary whom I hadn't met either. She would be about five foot nine, I judged from the height of the mirror in her office, fair haired and took a pride in her face if the cosmetics in her drawer were anything to go by. Forty or more, probably, because she read *The Economist* and *Time Magazine*. And a rare one for tidyness, everything in her little office all ship-shape and Bristol fashion.

"Yes, Mr. Brewer?" She had just the right note of friendly aloofness like a WREN at The Admiralty. Some of my mates don't hold with them but I reckon they brighten up the place a bit and don't do any harm.

"Do you think I could see Mr.

Prosser? It's a personal matter. Wouldn't take more than a few minutes."

There was a pause and I could feel her frowning at her engagement book. "Eleven o'clock. Come then and I'll try to fit you in."

Eleven o'clock gave me time to spruce myself up a bit for my first visit to the skipper. Miss Ellsmore was slimmer than I had imagined and prettier. And younger, too, which shows you can't tell what young ladies read nowadays. There was nothing unfriendly about her but she made me feel my place. "Just take a seat please, Mr. Brewer." Her office was a little altar of primness, all shining and straight lines. I watched appreciatively as she floated across the room then through the door into the skipper's office.

"Mr., Prosser will see you. Go through please."

I straightened my tie and walked briskly through, my lines well rehearsed on my lips. Then I stopped dead in my tracks. Two pink-edged, watery pale blue eyes and a ginger moustache stared at me from a suet pudding of a head.

"Close the door, Mr. Brewer." I did so and stood stock still. I don't think I could have moved if they had sounded Action Stations. "Now Mr. Brewer, what can I do for you?" He was doodling furiously and gave no sign of recognition.

"It's about my pay, sir," I

stammered. "I was thinking I was due for an increment about now and . . ."

"Your pay, Mr. Brewer?" His lips pursed petulantly. "That's no business of mine, you know. You must see Mr. Johnson." Then he returned to his doodling, scratching eagerly and impatiently. I got out fast.

I fetched up outside the building all trembling and shaken and I wasn't normal again until I was well into my second pint. I stabbed thoughtfully at my cold bangers and Fred said I looked as if I had something on my mind and he was right.

I tried to sort out the problem. There was Mr. Prosser, or should I say two Mr. Prossers, one who spent the day doodling and fretting in the office and the other who spent the night trying to warn him that his wife was trying to poison him. He must have a split mind, a real Jekyll and Hyde. A bit like that two and a halfer down at Pompey in the war who spent his leaves as an Admiral and bounced cheques accordingly. But he'd only been a villain, not sick like Mr. Prosser.

Well, there was the answer then. He had a split mind. But what was I to do? There I was scuppered. Should I go and see him again? Should I tell the police? Or perhaps I might have a word with Miss Ellsmore. In the end I decided to let things ride

for a bit. But I wasn't looking forward to that night, not one little bit.

The clock crept towards one o'clock. I'd read the same page of the newspaper twice and I still didn't know what it said, what with keeping one eye on the switchboard the whole time expecting to see the little light start flashing at any time.

One o'clock. Then five past. Then ten past. And no telephone call. Then half past and I started to relax a bit. By two o'clock I was certain the call would not come. But then I started to get a bit uneasy. I was almost wishing the call would come. I felt as if I could do with a drink and I walked through to Mr. Prosser's office to borrow a drop of his grog.

The light was on. Mr. Prosser was sitting upright in his chair, rigid and glassy eyed like a fish on a slab and he might have been one for all the notice he took of me. His left hand was resting on the telephone and he looked straight through me. I got out as quickly as I could.

Phew! I sank exhausted into my chair and felt more like a drink than ever, though nothing would have induced me to go into Mr. Prosser's office to get one. How on earth had he got in, I wondered? I daresay he had his own key but even so I should have heard him go past. I must be slipping up on the job.

I got to thinking. He was waiting for a telephone call. Who from? His other half, undoubtedly. What was he wanting to hear? Now there was the question. He wouldn't be wanting to hear that his wife was trying to poison him, surely? Right ho, then, perhaps he was wanting to hear that his wife wasn't trying to poison him.

I told you I wasn't slow to act on my initiative when I'd made a decision. I was dialling his office number almost before I'd made up my mind what to say. I heard the ringing tone and it was a long time before he answered.

"Hello."

"That Mr. Prosser?" I'd always had a bit of a gift as an imitator. It used to go down well at the ship's concerts.

"Yes. Who is that?"

"It's about your wife."

"Yes?" His voice was quick and eager. "What about my wife?"

I hesitated, searching for the right words. "What about her?" he prompted.

"It's all right. She's not trying to poison you." That sounded a bit weak but it seemed to do the trick all right.

"She's not?"

"No."

"Thank God." Then I heard the click as he put down the 'phone. He hurried along the corridor out-

side then down the steps. I looked out into the street and saw him hurrying away, almost running. Then I went into his office and poured myself that drink I needed so badly.

I could sense the change in Mr. Prosser almost straight away. The doodlings stopped and the pills and the whisky disappeared. I reckon I did myself a bad turn there, but all in a good cause, I thought. He was a different man in the office, by all accounts, less irritable, more friendly and a better skipper all round. He started to put on a bit of weight, they said, and took up his weekly game of golf. They all wondered what had caused the change but I didn't tell them.

And there were no more one o'clock telephone calls.

Then shortly afterwards he died, very sudden. They said it was a heart attack and we all chipped in for a wreath. I attended the funeral myself and his wife looked all upset and widowy.

But she didn't remain a widow for long. She was married again within six months to that rich fellow MacAlroyd, the one she'd been tarding around with before her husband's death.

Which all goes to show, doesn't it? You never ~~can~~ tell.

## VAN ALLEN BELTS

*by Theodore L. Thomas*

WHEN THE FIRST AMERICAN satellite went into orbit, it carried a simple, shielded Geiger counter. The counter was supposed to prove what everyone knew: the cosmic ray intensity increases as you climb up out of the Earth's atmosphere.

It didn't work out that way; the count fell off as the rocket rose. The scientists shrugged their shoulders and assumed that the shock of take-off had ruined their counter, and they installed another one in the next satellite. But the same thing happened. In fact, there were times when the counter indicated that there were no cosmic rays up there at all. This didn't make sense.

Somebody suggested that maybe the counters were being jammed, drowned in a great excess of radiation. Explorer IV and a few other satellites confirmed this suggestion, and men discovered that the good Earth was enfolded in relatively intense belts of radiation made up of protons and electrons. The belts were named after James Van Allen, the man who directed the group re-

sponsible for the instrumentation aboard the early satellites.

Since the discovery of the belts, over 200 detectors have been launched into space to see what goes on. The story is not complete yet. There are fast and slow protons and fast and slow electrons trapped along magnetic lines of force around the Earth. The concentrations of these particles vary, but enough particle flux maps have been prepared to show the distribution of the particles at various times. At a distance of 4 to 8 thousand miles from the Earth's surface, low energy electrons occur more frequently than high energy electrons. At 2 to 4 thousand miles out, high energy electrons are more common. Magnetic storms and high-altitude nuclear detonations cause changes in the belts. But a lot more information is needed for a complete understanding of the belts.

Yet this much is known: electrons and protons collect along magnetic lines of force above the Earth's atmosphere. And so we have a possible source of power

there, a kind of extraterrestrial storage battery. A satellite positioned on the lines of force could utilize the electrons in the form of a flowing electrical current. A proper shield or series of shields could keep electrons out of one portion of the circuit and protons out of the other. The electrons would flow from the electron collector to the proton collector, and there's the electrical current.

This current would not by any means be a Niagara of power. In all the radiation belts around the Earth the total mass of protons is something less than 200 pounds, and the total mass of electrons is something less than one ounce. But modest electrical currents nevertheless can do work, and we may well want to take our power where we find it.

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## THE OLD MAN LAY DOWN,

and the galaxy began to make  
its motion known. Unknown to him  
his passage had been booked  
around the sun for seventy years,  
he must clutch  
and hold on  
bleeding with loves, wondering why  
he didn't fly off  
from the terrible speed.  
His head went around.  
"Addled brains of old age,"  
he jeered at himself,  
but dug in with his toes, didn't dare  
to rise any more to his height,  
and swung on through  
the gorgeous arc, teeth in his gums,  
the Zodiac strung on his chest  
with a tinkle of charms  
while his hair grew roots. Wrenched  
at last from his grip  
he smoked off like a storm.  
Where he had lain so long  
the stars  
came up again.

—S. DORMAN



*The R. Underwood of this story (and, we trust, of forthcoming stories) is the R. S. Underwood of technical articles such as Are We Alone In The Universe (in The Navigator, official Air Force Quarterly) and a number of textbooks; he is also the same Dr. Underwood of Lubbock, Texas, who has taught math and physics on the university level. We decided to leave this story's slightly old-fashioned title unchanged, partly because the subject matter is—in its technical aspect—one perhaps more favored in the Old Days of SF than presently. None of the older authors who used the theme, however, dealt with its human aspects with quite so much insight, warmth, and sheer good humor. We incline to think (and always have, from a boy) that all mathematicians are crazy; but, be that as it may . . .*

## *The Crazy Mathematician*

*by R. Underwood*

THE FANTASTIC EVENTS OF the inner generationss started with a telephone call in the shank of the evening. Though groggy with sleep when I unhooked the receiver, having flopped into bed before 10 P. M. after a grueling day, I was wide awake in a minute flat. In another minute I was outside Mrs. Jenrod's Boarding House and inside my little bug of a car, headed for 2057 Plymouth Street.

Something big, of course. Even if I did have barely six months of seasoning and sophistication as a reporter for the Willowby Enter-

prise, my job was supposed to be on the day shift. After all, I had an almost new diploma from the Journalism Department of State University, and if Harry Parks should prove too demanding, hordes of other editors would be interested in Calvin P. Wilkins, B.A., twenty-two years old, a trim six-one of muscle, dark, good-looking, and competent. So when Boss Harry said that someone wanted to see me at the address noted above, my tone at first might have carried a hint of reproach, and properly so. Then I caught the name. Professor Rumpel, did

he say? Yes, the great E. P. himself, and get busy.

Well, if the late Albert Einstein had once summoned me for an interview, you can well imagine how exciting it would have been, although naturally nothing like this. Albert in his day was a genius too, of course, but definitely a sane one. Here, on the other hand, was a genius touched by madness—a world sensation in the fields of mathematics, physics, astronomy—you name it. Less than a year ago he had arrived mysteriously from some distant place and had calmly unriddled the universe, so to speak, before some thirty different groups of pop-eyed professors. When a fellow like him calls for a small time reporter at an unearthly hour, something ought to break.

How, I reflected, as I drove in a dangerous trance toward the general area of Plymouth Street, would he know or bother about me? Me, a scribbler who usually turned in unsigned stuff. It must be—it had to be—those two feature articles. The last one had come out only three days ago and was quite impressive, come to think of it, with my name smack under the title. It had a science angle to it, and that was probably what got the man. As a matter of fact, though I had majored in journalism at the university, I had always liked mathematics and had

sailed through several courses, including a tough one in calculus. It takes a certain talent, of course. Maybe the science article showed flashes of what might be called genius. I was perking up as I turned into Plymouth Street.

A porch light cast a dim glow at about the right place, so I parked my car and got out to investigate. As well as I could judge in the half light the neighborhood was not too imposing. The cement of the walk was uneven, and the board floor of the porch sagged and creaked as I stepped upon it gingerly. Yes, the number was 2057 all right, but maybe the street was wrong. As I hesitated the door opened silently, and a tall foreground figure darkened the gloom inside.

"In."

The voice was low-pitched, guttural, strange. Somehow, all at once, I didn't want in. But this was silly; reporters always want in. Gulping, I entered. The door clicked shut, and sudden light blinded me. Maybe ten seconds had passed, with me standing there blinking, scared, and somewhat addled, before I could begin to take in the amazing scene.

The room was large and almost empty, except for a shimmering closet-sized box which sat incongruously in the middle. An elegant carved chair was before me, and I had a fleeting impression of a heavy carpet and black

drapes over the windows. But mostly I saw the giant. He was about seven feet tall, and his suit was all in one piece, like a corduroy coverall. His head was pear-shaped and bald, and a massive cliff of a forehead was punctuated below by two caverns for the eyes. Huge eyes! Black they looked, shadowed as they were by the overhanging, with maybe a touch of purple when you looked again. Compelling, hypnotic eyes, but, glory be, not cruel. All by themselves they directed me to the chair, and I sat down limply, feeling somewhat relieved.

"Your name?"

So he didn't know it after all.

"W—Wilkins, sir. Cal Wilkins. I'm a reporter."

"Naturally. That's what I asked for. I told your editor I had to have a writer in a hurry, and I preferred one who had an inkling of knowledge of mathematics. He said he could furnish a beginner who had maybe a trace of such knowledge, and I suppose you're the one."

Sometimes a fellow has to come down in the world. The science feature article must have been completely over Harry's head. But I decided I'd better not play it up too big in this case.

"Well, I *have* had some math.—more than most fellows in my type of job."

"Good. Then maybe you know the most ridiculous, the most asi-

nine, the most illogical and completely indefensible phrase used in what is sometimes called 'the scientific world.' But excuse me—you wouldn't, of course."

"Well, I—I guess I don't."

"What—". The deep eyes came closer to mine. "What is the smallest positive number?"

Shucks, this was old stuff. My confidence returned.

"There isn't any such thing, sir. Because if it existed, we could call it epsilon, say, and then epsilon divided by two would be smaller, so we have a contradiction."

"My—just like that. Then what is that senseless phrase I mentioned? Never mind, I'll tell you." He seemed to draw in a long breath, and then spat out the words as if the affront to his intelligence was almost more than he could bear.

*"The ultimate particle."*

For a moment he could say no more, and then he went on more calmly.

"They once said that the atom might be it, and then they began to talk about its component parts—protons and neutrons and electrons and mesons. All well enough, until some moron remarked that the search must still go on for the ultimate particle. Any half-mathematician, even you, should be able to tell him how futile that search has to be. But probably the full significance of

those words you parroted from some class-room has not really sunk in. Suppose—"

He turned toward the closet-sized box. A queer feeling came over me as I looked at it also. Could it be *actually shimmering*—swelling just a little and then contracting—or was this a trick of those hypnotic eyes?

"Today I broke the last barrier." The purple wells of light turned to me again. "There is not much time. It has to be tried within an hour, or the field forces will lose alignment."

I pinched myself, hard. The deep eyes did not waver or disappear.

"Suppose we could make a diminishing machine. This would be incomparably more important than the 'time machine' of science fiction, because we have at least some faint idea of what would happen if we could go backward or forward in time. True, our imaginations can likewise sweep outward, in a feeble way, through the endless galaxies of space; but in the other, or *inward*, direction, they haven't made even a try.

"Now let us suppose that we get inside the machine and then, when the fraction one over ten appears on a sensitive surface, we and the box shrink instantly to one tenth of our former dimensions. That means that the volumes would be reduced to one part in ten cubed. An electric tape takes

over, adding zero after zero to the denominator, and at each click we become one thousandth as large as before. In approximately ten clicks we become as small as the average atom, and in a few more we are in virgin territory, *whose nature no one has even tried to guess*. And after merely twenty-six clicks, as compared with normal man, we would be like that man standing before the universe of the radio telescope, assuming that universe to be some ten billion light years in diameter. All the time inside the box everything seems perfectly normal."

Crazy he was, for sure. But I could go along with him, in a way.

"That would be quite a trick. It sure would make a fellow feel queer."

"Why should it? Other things just as queer are happening all the time, as you well know. Right now you are traveling eighteen-plus miles a second around the sun on this ball of earth, and you and the earth and the sun are whizzing around the center of the Milky Way galaxy at ten times that speed. Yet everything seems quiet and normal. What was it that Shakespeare said about more things?"

"More things in heaven and earth," I quoted, "than this world dreams of."

"Precisely. And now we come to a genuine problem of science

which is quite apart from my own pretensions, if such they are. Suppose the machine has clicked off one million zeros, and its size, along with yours, is reduced accordingly. You step outside. The particular atom which surrounded you at one stage has swelled to a mountain, a sun, a galaxy, and then to something unknowably vast. What, I ask you, could you reach out and *touch*?"

I had an inspiration. "The ultimate particle?"

"Of course not, you idiot. For the process continues endlessly; there is nothing in nature or logic to stop it. This is just the first generation inward, and another million zeros brings us to the next, and another—"

"Enough," I cried. "I get your point, I think."

"Then get in."

A hand of steel closed on my arm. I struggled vainly as the door of the diminishing machine snapped tight in the rear, and I moaned when a tiny light flashed over a string of zeros. They moved leftward, slowly at first, then faster, until finally the blur of them faded into blankness, and the great eyes of E. P. Rumpel stared steadily into mine.

"Outside!"

The words had a pleasant, insouciant ring. Distantly I heard them as my mind and I groped together in a fog, and then I real-

ized that the door was open and that Rumpel's voice sounded warm and human.

He strapped a contrivance onto my back, and then brought a flexible, transparent tube around under my left armpit and into my mouth.

"Condensed air," he said. The man thought of everything. A glance into the mirror I happened to have in my pocket showed only a slight puckering of the mouth, as through the almost invisible tube I sucked in air which was sweet and normal, with maybe a slight tang as of new-mown hay. It was nice not to be strapped in an ugly suit because, as I hate to mention again, I'm fairly pleasant on the eyes. It was rather difficult to say what might come up in a situation like this.

"Station One Million and Sixty-three. Watch your step."

I went out into a suffused glow and found that I wasn't standing on anything. All around me floated grotesque chunks of a yellow material full of holes, like sponges or pieces of cheese. About a hundred feet down a flat brown surface stretched toward a green horizon.

"As you will note," said Professor Rumpel, clearing his throat, "we seem to be weightless. Oh, we're being pulled down just a little by the tiny flake from a proton which looks like land below, so that we get the feeling of

up and down. But notice the red ceiling above which practically balances the two pulls. The miasma rising from brown to red holds us stationary and carries the sound of my voice. Had you wondered about that?

I had to confess that I hadn't. There were several other things to wonder about, including the wet feel of the giant sponges. We rocketed playfully from piece to piece, splashing the juice on each other. But all of a sudden Professor Rumpel, who had been upside down, righted himself and grabbed me by the collar, pointing toward a golden blob.

"It's quivering," he yelled. "We've got about two minutes."

His strength was almost super human. Together we kicked on a yellow boulder, and it was a good thing that Professor Isaac Newton's law of action and reaction was still on duty. Grabbing the chunks on all sides, we swam and floundered toward the shimmering goal. I've seldom seen anything that looked as good as that rectangular piece of remarkable material into which we climbed, panting. The door clicked shut, the light over the tape blinked, and the left-marching zeros blurred again.

"Careless of me," said Rumpel. "If I don't set the timer it takes off again in five minutes. The very longest stay I'll be able to manage is a little more than an

hour. It sure needs a lot of tinkering."

I was too winded to comment, but I still had a feeling that the work done up to date was not altogether wasted.

So we zoomed again and again, and stopped just as often, on our way to Station Three Billion, which, as it came out later, was the highlight of the whole trip. Part of the stops were on exotic planet-like balls, with different sorts of life, some almost human. Once I got interested in a charming creature who seemed to like me too. Professor Rumpel had to drag me away when the machine started to blink. I let go of a warm hand with some reluctance, noticing at the same time that it felt a little odd.

"Six fingers and no thumb," the professor pointed out. "Didn't you notice from the signboards that they use the base twelve, instead of ten like humans? It should be obvious why. Didn't you notice?"

I sighed. There was so much to learn, and Rumpel didn't miss a trick. He was what I would call an able individual.

On one neo-planet the suns were swarming in the sky, and the professor mentioned that this was a region like those in globular clusters outside our galaxy in the super-universe of man. Space ships were coursing in and out, some, oddly enough, shaped like

flying saucers. I watched a variety of creatures, both attractive and otherwise, converging on a giant ramp. It was probably one of the most cosmopolitan gatherings I have ever seen.

I forgot to mention that at this very time I was holding a hand, I think, which had perhaps seven fingers and was attached becomingly to what I felt was maybe a girl, who in turn was in the crook of my arm. I knew that in like circumstances Professor Rumpel would have been calculating with the bases seven and fourteen, just for practice and possible communication, but I think he overdid it. Back at the university I had been known as a fast worker, decent but not shy, and now I was finding that the technique had what you might call some universal aspects.

Well, be that as it may, we had to leave and go back to the old routine. I found pretty soon that I no longer blacked out during the squeeze runs, and then Rumpel showed me how, by reversing the switch, we could back up at any time. It occurred to me right then that this could well be one of the most useful features of the gadget. Anyway, I was having a great time jiggling the switch on my own, fascinated by the thought of how we were shrinking or swelling according to my whim. I noticed between shifts that Professor Rumpel was

paying no attention to my fun, and was reading his book. (Once I had picked up this tome from a shelf under the light, only to find that it was in hieroglyphics, I think.) But suddenly he looked up, glanced at the dial with a startled expression, and then, seemingly satisfied, took out his watch and held it for about ten seconds.

"Cut," he yelled. "Station Three Billion. Out."

Oh, what a beautiful world, this one! Trees and grass and wind, almost like on earth, but better. And there, walking past with a grace no woman on our planet could ever match, was a creature who was like an incredibly lovely human reared in another age, and utterly purged of all earthly flaws.

Who was I, Calvin P. Wilkins, B. A., educated, sophisticated, flippant, and in somewhat peculiar circumstances, to be thinking of love at first sight? The machine was honed up, and Rumpel had warned me that this was only a half-hour stop. But clearly something had to be done. I had no idea of what would happen if I hid out and forced the pilot to go on alone, and I doubt that anyone else would in a like situation. On top of that worry, a new and unusual one cropped up at the worst possible moment. My confidence in my technique had de-

served me for the first time in my life.

Here was disaster indeed. It came to me that a half hour would simply not be enough. A full hour at least was needed just to get this glorious creature's address, if they had such things in this heavenly place. And all the while I was following at a discrete distance—a fact which in itself showed my distraught state.

She walked on, serene, majestic, and totally unaware of me. At a small building she sat down on a bench, much as people on earth do when they wait for a bus.

It was now or never. Luckily, I am resourceful. Screwing up my courage, I walked the necessary distance, picked up a handy club, swung it lustily, and knocked Professor Rumpel unconscious. I regretted the necessity, of course, but it gave me time to do what had to be done.

I dragged the big fellow into the diminishing machine, where he would be less likely to attract attention, and then by main strength forced the indicator to the one-hour position. On a stop-over the track was irreversible, so Rumpel would be frustrated, when he came to his senses, if he tried to take off before the hour was up. Then I walked back and sat down beside the goddess, trembling inwardly but determined. Right away I noticed that

she was one of the rare creatures I had met on this trip who had four fingers and one thumb per hand.

The situation was ticklish, what with my confidence shattered and the stakes so high. The goddess looked straight ahead, and her profile was shattering. The desperation-delay number seemed to be indicated, so I went into it: casual glances, eyes meeting, eyes lowered, watch examined, imperceptible shift—the whole routine. Once I thought the time had come for the "Haven't I met you before?" part, and then I realized how silly this was. Speaking was out, naturally.

And yet, in the billions upon billions of chances, couldn't it just happen that you might run across near repetitions, even in the matter of language? Wildly improbable, of course, but—

"Haven't I met you before?"

You'll probably find this hard to believe, but *she* was the one who said it. When a thing like that happens you just have to give up and go on from there. So I did.

As it happened, her English was as good as mine—maybe better. I was somewhat confused anyway, what with being more smitten all the time. But I did gather that her opening remark was completely proper. She was in a country with friendly customs, and she was simply mis-



taken about having met me before.

At that, there was considerable explaining to do. I don't think she fully and completely accepted my account of the diminishing machine, but she was polite about it. And she was sorry when I had to leave; of that I'm pretty sure. From her purse she took out a sheet of paper, scrawled something on the upper and lower halves, tore it into two parts, and handed one to me.

"If you ever come back," she whispered, "we can match the pieces. Good bye and good luck."

Not even a kiss. And me with my technique!

Sadly I crammed the broken sheet into my pocket and raced toward the machine. This I knew for sure: I *would* come back, if there was a way. I wouldn't even have left if I hadn't felt a certain loyalty to Professor Rumpel, who after all had helped in this romance, though in a sort of devious way.

There he was, the poor man, still unconscious. In any case I knew how to take off. I felt guilty, yet somehow noble, competent, and almost unbearably sentimental, as I fingered the switch and waited for the moment.

Some lines of poetry came to me. Once, in an attic hunt, I had copy of a defunct magazine called *The Literary Digest*, dated November 3, 1923. I remembered the date because the poet had

"sent" me, as they said in those days, in spite of my blase sophistication. I had learned it by heart. Never had the lines seemed so appropriate and so poignant: *Just for a fragment of morning we two were together.*

*Trail joined trail in the hills, and we rode to the west.*

Yes, our trails had joined—for good, I hoped—in a trysting place new to the age-old universe. *Chance-met comrades in youth and the upland weather, Wasting our priceless moments in banter and jest.*

Ah, but in our case there would be no waste. I would go back. *How could I know that the hills would grow dark with her going?*

*Laughing, I watched her ride into the south, and away.*

The south? In Generation Three Billion?

*I should have put aside all things, and made her road my road; I should have followed her down to the ends of the earth.*

And I would, too. Farther than that.

On the way upward to our generation, I implored the great man to give me the secret of the diminishing machine, so that I could go back to my wonderful and hard-to-reach love. But Professor Rumpel was out of sorts, and perhaps this was understandable, considering the bump on his head.

"You and your love at first sight," he scoffed. "Yes, I've forgiven you, I guess, but I am not sure I would explain this gadget to you if I could. You're not reliable enough. Holding up the timer for an hour, when it was set for just half of that, naturally warped the machinery and started the Shrink-Swell Alternator, so I hardly know where I'm at. What am I saying—where I'm at? See—you've ruined my diction, among other things."

"Now professor, you're upset. Please, sir. Don't you see what it means to me?"

But it was useless. Edwin Percival Rumpel was adamant.

As the machine bumped lightly he stepped out, still pouting a little, and then said something puzzling.

"Here you are— G. One. Your girl is in the generation represented by one over ten with the exponent three billion. Of course, you messed up the machine so that the precise figure is somewhat uncertain, but in any case the young lady is badly misplaced. My own generation is three billion too, but you leave off the one in the numerator. I am going in the *other* direction."

The great eyes looked at me affectionately, I thought, from inside the box. Then it was not there. In the dawning light I made out the tar paper over the windows which I had taken to be

dark drapes, a broken-arm chair which had seemed elegantly carved, and crumbling yellow dust in place of the thick carpet.

Outside, and in a despondent mood, I slumped into my car and left for good the empty house at 2057 Plymouth Street.

Time is a queer thing too, the way it can stretch. When I woke up at Mrs. Jenrod's place I felt that I had been away for a year. What a crazy dream! Or was it? How come I could remember so clearly every single one of those breath-taking items such as the eyes, and the mouth, and the ears, and the walk, and—oh yes, come to think of it, the machine.

Outside, a newsboy was bel-lowing something.

"Extra! Extra! Great man vanishes during night. Heavy baggage gone too. Extra! Professor Rumpel, greatest—" The hoarse yells garbled off in the distance.

I jumped out of bed. How come I was dressed? The pocket of my coat felt bulgy, and I fumbled around in it. Out came a sheet of paper, torn in the middle, along with a comb and a small mirror. There was a girl's name in it, and an address. But look where it was!

Could it be that I had maneuvered the machine inward and then *back outward* so that Station Three Billion was really only the old planet Earth hit at a different angle? Rumpel had admitted that my amateur navigation meth-

ods, what with jamming and excursions both ways, had badly gummed up his calculations. That long haul back to Plymouth Street might have been a second round trip with an especially lucky landing.

And that, in case you have wondered, is how I came to meet Norma, my wife. She says she *thought* I was a bit touched when I sat down on that bench and told that preposterous story, but—well—I did something to her at that. Of course, a lot of correspondence and persuasion was necessary because she thought if I was such a liar and all—and besides it was in perfectly respectable daylight when I edged up looking so calf-eyed. It wasn't late *at all*. So I had to send her books explaining about time zones and astronomy and stuff—and how I had set out long *after* dark and got

to her place even *before* supper time at the end of my first round trip back to earth, which we hit at a different place because I had naturally snapped back into place while I was fiddling so that next time we hit Plymouth Street on the nose—and how I happened to know that the universe in the astronomy books, like as not, was nearly lost in a special tiny part of one of the so-called atoms in one of the nails in maybe the left shoe of Professor Rumpel, who had disappeared so suddenly.

Norma just looks at me in a funny but rather pretty way. After all, people where she lives are always a bit uppity and skeptical toward the innocents who live in Florida; so I had to move clear out to her precious California to go on with the explaining. I haven't finished it yet.



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*Just how Terry Carr, at the age of fourteen or so, got bit by the SF bug and subverted into Fandom, we do not know, nor does he here say. Gradually, over a decade or more, he became known as one of SF's leading amateur journalists. He still remains one, though having turned Pro not long ago with outstanding stories like BROWN ROBERT (F&SF, July 1962) and HOP-FRIEND (November 1962); he is also the author of the novel WARLORDS OF KOR (Ace) and the forthcoming INVASION FROM 2500 (Monarch)—the latter with Ted E. White. Mr. Carr is on the staff of a large literary agency and lives in picturesque, civilized Brooklyn Heights with the comely Carol Carr; they have one cat, White Fang. In this article he examines what is perhaps not the least of SF fannish phenomena, the numerous and diverse amateur magazines ("fanzines") produced by the genre, uniquely.*

## **FANZINE FANFARONADE**

**by Terry Carr**

ONCE UPON A TIME, ABOUT twenty-five years ago, there lived a young man who had the crazy idea that he wanted to be a writer. In fact, he wanted to be a *science fiction* writer, which was even crazier.

He was still in his teens, and he was known among his friends as an intelligent guy with a somewhat regrettable sense of humor—when he wasn't giving a hot foot to one of his friends, he was writing stories in which, figuratively or literally, he gave a hotfoot to a mad scientist or a scaly alien (bug-eyed monsters hadn't been invented yet, at least

under that name). Sometimes, and this was worse, he refrained from the hotfoot and subjected his friends or story characters to atrocious puns.

His friends shook their heads (or their feet) sadly. And when they found that the young man was actually going to the length of publishing his own mimeographed magazine, filled largely with his own stories, they just about gave him up for lost. He called his "science fiction fan magazine" FUTURIA FANTASIA, which was about as high-flown a title as had ever served as a front for bad puns. And he

claimed there were scores of others like it published all over the country (and in other countries too) with vast circulations sometimes reaching seventy-five, and that he contributed to many of these other magazines too.

Obviously this young man would come to no good end. They pictured him at forty, a dissolute, unshaven, bloodshot wreck selling pencils in the streets (and probably giving a hotfoot to anyone who didn't buy a pencil).

As it turned out, this young man grew up to be, at forty, Ray Bradbury.

The above tale is the classic success story of science fiction fandom, and anyone who writes an article about s-f fanzines is dutybound to tell it in more or less awed tones. To neglect to do so is tantamount to writing a book about jazz which doesn't include the observation that it "came up the river from New Orleans," or to writing a *Life* article about science fiction without mentioning that FBI men visited the office of John W. Campbell, Jr. during World War II because he'd published a story about the A-bomb.

For a lot of people, the Bradbury success story has taken on almost the grandeur of an epic, with the teenaged Bradbury as a sort of s-f fandom culture-hero. In an idealized fandom, the feeling goes, every publisher of fan-

zines would go on to the pinnacle of professional writing success. But the classic epics were based on myths, and so, to a large extent, is this one.

It's certainly true that Bradbury was once just a young guy who wrote for and published fanzines, but this may not prove much. As one wag noted recently, a young man named Warren Brick also once published a fanzine, and his puns were just as bad as Bradbury's. Today Warren Brick is a dissolute, unshaven, bloodshot wreck at forty, and he sells pencils in the streets.

If there's any real point to that story about Bradbury, it must be that you can't predict, from the kind of stuff a person writes in fanzines, whether or not he'll ever be a Writer in the accepted sense of the word. Because contrary to what you might expect, the magazines published by science fiction's amateurs don't serve primarily as a testing ground for aspiring s-f writers. Fanzines are for fun, and there's hardly anything that's more obviously *not* fun than science fiction stories by amateurs. (Stop and think for a moment about some of the really bad stories you've read in s-f magazines—present company excepted, of course—and you'll see why the ones that aren't good enough to sell seldom appear in fanzines either.)

There *have* been a large num-

ber of prominent science fiction writers who came up from the fan ranks, of course, and naming them is always a great parlor game. There's Damon Knight, and Poul Anderson, and Judith Merril and John Wyndham and C. M. Kornbluth and Arthur C. Clarke. There's James Blish, Robert Silverberg, James White, Donald A. Wollheim, Charles Beaumont, Wilson Tucker, Frederik Pohl, Marion Z. Bradley . . . and so on.\*

Not too many of these writers stuck to writing science fiction stories when they were contributing to fanzines, though. Instead, you were more likely to see under their mimeographed bylines an article on politics or education, a rambling account of a trip they'd taken from Boston to New York, or a good-natured ribbing of some other fan.

The phenomenon of fanzines is always hard to explain to anyone who hasn't encountered the concept before. One could mention the National Amateur Press Association and others, whose members publish quite a few amateur magazines—but these seem to be issued primarily as vehicles for experimentation with typefaces and layouts. There are also the "little magazines," the literary quarterlies and such, but fanzines rarely even aspire to present ser-

ious contributions to anyone's cultural heritage.

Why do hundreds of science fiction readers in this country, in Canada, England, France, Germany, Sweden, Australia, Argentina, Japan and elsewhere spend time and money writing for and publishing fanzines? The policies, publishing schedules, and qualities of these fanzines are usually highly erratic. Their circulations, even today, usually don't go above a few hundred, and they *never* show a profit. What's the reason for them, then?

One s-f writer, upon being told of these people who spend their leisure time sitting at typewriters writing stuff for which they know they won't be paid, gaped, shook his head, and finally muttered, "That's like hitting your head against a wall for five hours because you know it'll hurt so much when you're finished."

Actually, it isn't all that hard to understand, if you approach it from the right direction. Consider: there are a lot of men in this country who make their livings by swinging a piece of wood at a thrown leather ball, and running like hell all around a plot of grass and dirt doing esoteric things with that baseball. That's their job. But there are even more people around who either aren't good enough to make a regular living at the game or who'd rather do something else as an occupa-

\* *There is also Terry Carr—Ed.*

tion, and these people go out on the weekends to bat the ball around just for fun. A lot of people go to these sandlot baseball games and enjoy watching them.

In a way, that's how fanzines got started—except that there are no precise parallels in this world. (All analogies get tangled up at infinity.)

Science fiction readers seem to have been volubly interested in their type of fiction right from the beginning, and by the late 1920's the letter column was an established feature of each s-f magazine. Since these columns printed the addresses of those who'd sent in their comments, it was inevitable that many of the readers would begin writing directly to each other to share their mutual enthusiasm, and a great many correspondences sprang up in this way. By 1930 some of these letter-writers had discovered that they had more fellow-fans than they could possibly keep in touch with, so they came up with the idea of publishing amateur magazines in which they could review stories, books and movies, write stories of their own, publish checklists of the works of prominent writers, and so on.

The first fan magazines seem to have been rather unimposing—a few pages each, with circulations of not much more than a score. Before long, though, more lavish productions like FANTA-

SY MAGAZINE, SCIENCE FICTION DIGEST and so on sprang up, ambitiously printed by letterpress, often containing stories contributed gratis by established writers like H. P. Lovecraft, Clark Ashton Smith, David H. Keller, M. D. and others. (The frequency with which these writers donated their stories to fan magazines can be explained at least in part by the fact that they didn't get paid much by the professional magazines then anyway.)

These fanzines of the '30's were for the most part awfully serious in intent and tone ("G. Peyton Wertenbaker and the Romantic Tradition," etc.), and eventually there came an inevitable reaction against this. What were the "classics" which fan writers had been extolling in such a deadpan manner? the new generation asked. Well, on more mature (or jaded) consideration, most of the stories of the time were merely hack potboilers written strictly for thrills, and the terribly serious articles written about them began to take on a slightly ludicrous tinge. So a growing number of iconoclasts began to poke fun at science fiction and at other s-f fans—Ray Bradbury among them.

Concurrently with this reaction came another one: If science fiction wasn't worth such serious consideration, then what was?

And another new vogue came in: the terribly serious article about politics, religion, sociology, history and so forth. Fans have always been opinionated, and they're seldom reticent about expressing their opinions in print.

Speaking broadly, fanzine material ever since then has been of these three major types: serious material of a science fictional nature, whether stories or articles; humorous pieces written either as satire or just for the fun of it; and serious articles on various more or less weighty and controversial subjects.

This takes in an awful lot of territory, of course, so that today, if you pick up a fanzine, you're likely to run into just about anything. Representative pieces in recent fanzines have included: a long essay on Fellini's *La Dolce Vita*, by Robert W. Lowndes; a general review of Lancer Books' Science Fiction Classics series, by a teenaged fan; an article on England's somewhat socialized medicine, by a practicing English nurse; a humorous article by William F. Temple reminiscing about the Arthur C. Clarke of the early '40's; an article by a young woman rather devastatingly describing how she handles people who continually dial her telephone number by mistake; a long article by a West German teenager about the effects of Naziism on the postwar generation; a satire on Heinlein's

PODKAYNE OF MARS; a reminiscence by Avram Davidson of his experiences in Turkey; an anecdotal report on the annual British s-f convention by Brian Aldiss; an essay on mother love by a Los Angeles machinist; a portfolio of illustrations for THREE HEARTS AND THREE LIONS drawn originally for his own amusement by the author, Poul Anderson . . . etc.

Fanzines come in all sizes and flavors. They're usually published on letter-sized paper, from twenty to forty pages, but extreme examples have varied from postage-stamp-size japes to heavy volumes running to hundreds of letter-sized pages. They're usually mimeographed, but some are reproduced by lithography, spirit duplication (a frequently unhappy medium), letterpress, or whatever you.

Their titles run the gamut: IGNATZ, HORIZONS, THE SPIRIT OF HORSE CREEK, INSIDE, TROLL CHOWDER, THE BULL MOOSE, BIG DEAL, ERG, THE WILD COLONIAL BOY, ORION, POT POURRI, SLUG, DOLPHIN, THE CELEBRATED FLYING FROG OF CONTRA COSTA COUNTY, FLABBERGASTING, etc.

It must be noted that a great deal of the material in fanzines is badly written, poorly thought out, and often not worth reading. On the other hand, much of it is quite



worthwhile. There are writers in fandom who, on aesthetic grounds at least, should never have been taught how to use a typewriter, but there are others whose wit, whose learning, whose consistent ability produce material which shows that they're amateurs because they choose to be, not because they have to be.

These writers remain amateurs for a variety of reasons, not the least of them being the fact that they're sensible enough to know that trying to write professionally is a tough business. (Like hitting your head against a wall for five hours because there's a chance it'll feel good when you stop.) One of the best fan writers turned his hand several years ago to professional s-f writing, with the result that he sold just enough material to put himself in a higher income-tax bracket and thereby came out with a net loss for the year. He doesn't write science fiction anymore.

And with others, the attitude is similar to that of the man (another of the best of the amateurs) who works in a machine shop among a lot of joes who will on occasions begin to pontificate in a manner which suggests that they're sure they could solve the world's affairs in an afternoon if they were just given the chance. This man usually stands at his lathe and listens with a bemused smile, but on occasions the air

gets a bit thick with self-importance, and at such times he's been known to throw back his head and shout, "I'M JUST AN ORDINARY GUY WORKING FOR A LIVING IN A CHEAP SHOP!"

It's impossible to say *why* fans are fans, by the way. They've been trying to figure it out themselves for years, without much luck. There've been all sorts of theories, from a mentally ill young man's conviction that fans were a mutation, a vanguard of a super-race, to the contention by an earthy wag that he'd caught it off a toilet seat. Others have claimed that fans are either hyper-sensitive and -intelligent or emotionally retarded—or both.

A few years ago, one fan took a survey and came up with the apparently meaningful statistic that most fans were first-born or only children. This caused quite a stir until it was pointed out that the average age of fans was in the early twenties—which meant that their age-bracket, that of Depression children, was one of few siblings anyway.

When you come right down to it, fans seem to be fans because they enjoy it. They publish fan-zines because they like to express themselves on an informal level. They're seldom trying to prove anything, or to get anywhere by it—not even, usually, to become professional writers. But because fans do keep busy at their type-

writers, they learn to feel at ease with the printed word, to express themselves better. And since they like to read science fiction, some of them inevitably end up writing it . . . and selling it.

But that's not usually the aim they have in writing for fanzines. They're really just out to have some fun, and everybody's welcome to join in.

Most fanzines list a price per copy and a subscription rate, but in point of fact over half their copies are sent out in trade for other fanzines, as complimentary contributors' copies, or free for letters of comment on them. It's usually best to send money when requesting a sample copy, though.

The following is a brief list of a few fanzines which interested readers may want to sample. These aren't necessarily the best fanzines published, but they are some of the best which appear reasonably frequently:

**CRY:** 25¢ apiece, seven for \$1.00, from F. M. & Elinor Busby, Box 92, 507 Third Ave., Seattle 4, Washington.

Humor, chatter, general articles.

**ENCLAVE:** 35¢ apiece, from

Joe Pilati, 111 S. Highland Ave., Pearl River, N. Y., 10965.

S-f reviews, political and sociological discussion, humor.

**HYPHEN:** 15¢ apiece, seven for \$1.00, from Walt & Madeleine Willis, 170 Upper Newtownards Road, Belfast 4, North Ireland.

Humor, s-f articles.

**INSIDE:** 25¢ each, four for \$1.00, from Jon White, 90 Riverside Drive, New York 24, N. Y.

S-f articles, reviews.

**MINAC:** Available from Ted White & Les Gerber, 339 49th St., Brooklyn, N. Y., 11220, for three 4¢ stamps per issue.

Chatter, reviews, humor.

**SHANGRI-L'AFFAIRES:** 25¢ apiece, five for \$1.00 from Redd Boggs, 270 S. Bonnie Brae, Los Angeles, California, 90057.

S-f reviews, articles, humor.

**VORPAL GLASS:** 25¢ per issue, from Karen Anderson, 3 Las Palomas, Orinda, Calif.

S-f articles, humor, poetry.

**YANDRO:** 25¢ apiece, twelve for \$2.50 from Robert & Juanita Coulson, Route #3, Wabash, Indiana.

S-f reviews, fiction, articles, humor.



*Alan E. Nourse, the writingest physician we know, considers here the question of The Perfect Match, and comes to a quite logical—and quite horrible—conclusion.*

# THE COMPLEAT CONSUMATORS

by Alan E. Nourse

"THERE IS JUST NO QUESTION about it," Tethering was saying. "Our services are made for you. The ordinary man is no problem—easy to analyze, still easier to satisfy. We hardly earn our fee. But a man of such superb discrimination who has held out for so long. . . ." He spread his hands ecstatically. "You're a challenge, my friend. You will tax our resources to the limit. But then, Consumption Incorporated thrives on challenge. You won't regret the outcome, I tell you three times."

"Tell me again," Frank Bailey said, still unconvinced.

"Well, the principle is obvious," said Tethering. "Until now, no marriage in history has ever been completely consumated. It's as simple as that."

"Come, now," Frank Bailey said. "You're over-selling."

"Not at all," Tethering said, flushing. "When I said consumat-

ed, I meant *consumated*. In the fullest sense of the word. Now, we can't deny that marriages have been consumated before, perhaps physically, in a haphazard sort of way, but emotionally, intellectually, spiritually . . . never! And even on the physical level . . ." Tethering broke off as though he could no longer endure the pain. "But how could you really expect more, under the circumstances? You pick a man and a woman at random from the grab-bag, utterly incompatible in a thousand subtle ways, and force them to live indefinitely in the closest, most persistent contact . . ." He sighed. "No wonder marriage is a farce. It's ridiculous. It has always been ridiculous."

"Until Consumption, Incorporated, came along," Frank Bailey said dubiously.

"Exactly," Tethering said. "Things have changed since the Frighful Fifties. No need to take

chances now . . . we have computer analysis and profile delineation to work with. We have Hunyadi and his neuropantograph. We can offer you the perfect marriage, the ultimate consumption. No risks, no gambles. Every notch in one personality is matched with the other, every line fitted perfectly to every groove."

Frank Bailey scratched his jaw. "Somewhere there must be a woman worth marrying," he admitted. "Though I can't imagine where."

"But what are your chances of finding her without help? Infinitesimal! How would you know her if you saw her? How could you hope to judge?" Tethering smiled. "The means of identification have been available for decades, but we are the first ones with courage enough to apply them. We need only your signal to begin."

"I think," Frank Bailey said, "that you have made a sale. You guarantee your results, of course?"

"Without reservation," Tethering said happily. "One hundred percent compatibility on all levels, or your money is refunded and the alliance annulled. I tell you three times."

It was enough for Frank Bailey. When he signed the service order, his hand didn't quiver for an instant. After all, he thought, how could he possibly lose?

The profile analysis was exhaustive; it was clear that Con-

sumation, Incorporated, did not intend to slouch on the job. Frank had envisioned a questionnaire or two to fill out, an interview with a man with thick glasses, and very little else. When he emerged from the gauntlet a week later he was a badly shaken man.

They started with physical measurements, and Frank saw what Tethering meant by "thorough." They recorded his height and his girth, his shoulder span and arm length. They measured him with vernier and calipers down to the point of embarrassment. They screened his eyes for exact color shade, and examined his hair for rate-of-growth, and carefully calculated his bone-muscle-fat ratio. No detail of his physical wherewithal escaped their painstaking attention.

Other things were measured, too . . . his likes and dislikes, his tastes and preconceptions, his conscious desires and unconscious cravings. Men in white frock-coats scurried to and from the computer, programming the data already taken, verifying it, and hurrying back with new questions to be asked.

They used the latest devices and drugs to help define the dimensions of his ego. With the neuropantograph they turned his mind inside out and twisted it into a pretzel, wringing from him his most guarded emotional responses and transposing them to

the activated Hunyadi tubes in the computer. Relays of interviewers spelled each other picking his brain from a dozen different directions, until Frank was almost ready to explode in their faces and storm out in a rage.

But each fragment of data extracted went onto a tape, and each segment of tape left impressions in the computer which punched holes in a card, and when it was finally over, Frank Bailey stood revealed in elemental nakedness, ready to be electronically mated.

It took time, just as Tethering had said. His own profiling was only the first step; the winnowing of prospective mates was even more painstaking. Rack after rack of female profile cards went into the machines, and day after day Frank paced the floor, certain that when all available cards had finally been screened and discarded, none would be left at all.

But one morning Tethering appeared, beaming. "Our work is done, my friend! The moment is at hand. Look!"

Frank peered with growing excitement at the two cards that represented himself and his perfect complement. "Where is she?" he demanded. "When will I meet her?"

"At once," Tethering said. "Unless you can think of some reason for waiting . . ."

And for all his native caution, Frank Bailey couldn't.

Her name was Barbara, and at first he was certain that some sort of fearful mistake had been made.

She was hardly his ideal of beauty, with her mouse-brown hair, her 30-inch bust and her slightly prominent incisors. The glasses did nothing to enhance the illusion, nor did her habit of stuttering whenever she became the least excited. And *she* was so shaken by their first meeting that she couldn't utter a word all day; it seemed that Frank Bailey was not exactly what she had anticipated, either.

But bit by bit they began to grow on each other.

The first day neither of them ate. Barbara loved extravagant sauces and dainty salads, and she couldn't cook anyway, while Frank was a meat-and-potatoes man who brooked no nonsense at the dinner table. But the second day, almost miraculously, there was food on the table that both could tolerate, and by the third day the meals were veritable ambrosia.

They began talking, and found that their interests, while divergent, were fundamentally coherent. If she responded unexpectedly to Frank's alien taste in jazz, he was amused by her Mozart quartets, and found them excellent comic relief. Their tastes in books and entertainment did not coincide; rather, they compounded, until neither could identify the source of which interest.

It was a Platonic relationship, for a while. On the first day no mention whatever was made of the marriage. On the second day they agreed that things of the flesh were really unnecessary, and talked for hours about spiritual fulfillment. On the third day they decided simultaneously that primitivism had its moments after all; they engaged each other on the bathroom floor at four o'clock in the morning, and there was nothing haphazard about it.

Each day proved a new enrichment and a new fulfillment; they could feel themselves drawing closer. "It's wonderful," Barbara said. "It was silly to expect it all in the first instant."

"Foolish," Frank agreed.

"But there must be a flaw," she said thoughtfully. "How will we ever know when it reaches completion? Today is better than yesterday, and tomorrow will be better than today. Where will it end?"

"Who says it has to?" Frank said, brushing away the fragmentary worry that kept worming into his mind. "Tethering promised us one hundred percent fulfillment . . . and considering his fee, we have it coming. When it stops getting better and settles into a routine, then we'll know the end point. Until then, why fret?"

But it did not settle into a routine. Every day was excitingly different as new heights of consummation were achieved. Mysteriously,

they found themselves thinking alike, knowing what the other was about to say and leaping ahead in conversations that were only half spoken. Their lives were suddenly supercharged with a strange exhilaration, like the influence of a subtle narcotic. It seemed that it could never end.

But there had to be an end point, of course.

They were sitting on the sofa one evening, exhausted from a day of ecstatic togetherness, when Barbara drew back and stared at her husband. Frank felt a chill creep down his back. He frowned at her.

"I feel very odd," Barbara said.

"I know," Frank said. "I've been feeling that way for days."

"B-b-b-b-but I mean right now, suddenly," Barbara said. "I f-f-f-feel like I'm burning up! It's different than before!"

"You're right," Frank said, suddenly alarmed. "It is different . . ."

"I don't like it," she said, pushing away from him.

"Neither do I," he said, starting to rise.

*"Something's happening!"*

*"Something's happening!"*

"HELP. . ."

There was silence then, with only the echo of a strangled scream.

After It had jelled for a while, It got up from the sofa and went into the kitchen to make a pot of coffee. ◀

# BOOKS



**WATCHERS OF THE SKIES, Willy Ley,** Viking, \$8.50

Willy Ley may be said to share with Isaac Asimov the honors of being Science Fiction's science *fact* man—although, unlike Dr. A., Prof. L. has written very little SF. Many are the stories told about Uncle Villy, some of them probably apocryphal, such as the one about the time he gallantly choked off a presumptuous female who prodded him in the midriff and said, "Really, Willy, you ought to diet," with a deceptively calm, "Shouldt I, my dtear? Vhat color?" or the one I heard him tell about the Prussian army inspector-general who asked an officer if the earth revolved around the sun or if the sun revolved around the earth. "The earth revolves around the sun, Herr Inspector-General," was the answer. The H.I.-G. promptly asked the same question of another officer, who, trimming his sails, replied, "The sun revolves around the earth, Herr Inspector General." Red with rage, the Inspector-General shouts, "It makes no difference to the Prussian Army if

the earth revolves around the sun or the sun revolves around the earth—but we must have *uniformity of opinion!*"

It is appropriate, therefore, that the latest book by this most un-Prussian of Prussians should bear the subtitle, *An Informal History of Astronomy From Babylon to the Space Age*. It is packed full of fat things and, really, my cavils are few. I mildly wonder at the absence of comment on the rather advanced astronomies of the Mayans and Aztecs, I should have liked some notice of Chaucer's *The Treatise on the Astrolabe*, and an answer to or opinion on the so-called "stellar sextant" of the Polynesians: was the half coconut shell, rim pierced by holes, body filled with water, really a navigation instrument? . . . or just a drinking-vessel? These things, of course, have no bearing on the actual development of the starry science, but there are so many fascinating details in the book that a few more wouldn't have hurt.

Well. We've come a long way, haven't we? From the Old Babylonians who, after curling their

beards with a hot iron proceeded to jot down on a mud tablet the result of what they had (or thought they had) observed from the local ziggurat, viz, *When Mercury approaches Aldebaran the King of Elam will die*; to the statistical possibility that "one planet of one of one of the forty suns within a distance of 16 light-years from us, might be the dwelling place of another civilization." We can't say which one, though. Too bad. Be of good cheer, however. Whenever the action gets clogged up with paralaxes, Dr. Ley turns the pen over to Uncle Villy, who brings in some fascinating bit of non-numerical data: Copernicus's busy career as a politician and lay canon of the church, how Tycho Brahe lost his nose, the "ashen light" of Venus, that Clearchus may after all have been right in calling the moon a "body smoking and charred," that the simply tremendous meteor which smote Siberia in 1908 might have consisted of anti-matter or "frozen ammonia or just ice," the colorful Zodial Light and its subdued Gegenschein, evidences for volcanic activity on Mars *now*, Jupiter—however vivid the image—is *not* "still bubbling and seething with the intensity of the primeval fires" but is likelier to be as frozen as an A&P turkey. . . .

Here is the sad story of Mr. Adams, who *really* "discovered"

Neptune, but was bumbled out of the honor by the pregnancy of the wife of the Astronomer Royal, here is the possibility that the "trans-Plutonian planet" may actually be a family of comets, here is Lowell—of the Boston Lowells—testily founding his own observatory in hopes of finding his own planet and—presumably—avoiding having to talk to or via the Cabots. . . . Of course, if you *like* paralaxes, there are aplenty of those, too. A big, fascinating book, and I don't care for the glaring colors in the otherwise acceptable jacket design by Dorrit and Howard Title.

**CURIOSITIES OF MEDICINE, Berton Roueché, Little, Brown, \$5.95**

Few sciences if any have a more continuous or continual effects on us than the science of medicine. Berton Roueché, an outstanding and (I believe) a lay writer on the subject, has here collected what he calls "An Assembly of Medical Diversions"—from Caius's 16th C. description of the mysterious and presumably extinct "English sweating sickness", through the ghastly but nonetheless utterly readable account of the murderous Broad Street pump whose cholera-infested water in 1849 killed over 500 people in ten days, down to the editor's description of contemporary suffering from labyrinthitis



—"gravitational anarchy," he calls it—a disease whose syndrome may reflect in advance something of what space travel might exact of its pioneers. The longest piece in the book is by the late Dr. Robert Lindner, whose **THE JET-PROPELLED COUCH** was reprinted here in January 1956.

The attractive effect of the lettering on the jacket designed by Regn/Bacon Studio is unfortunately offset by the anatomical jackanapes below. All in all a most interesting and rewarding volume.

**JULIAN THE MAGICIAN, Gwendolen MacEwen, Corinth, (Citadel)**  
\$3.95

This curious book is dedicated to the artist whose curious portrait of the author adorns the back of the jacket; the *front* jacket design is very good, but credits are (reprehensively) not given. This is a sort of retelling of the Jesus Story, and there are those who will say—with some reason—that the original is hard to beat, and so who needs another version? But I may be unclear . . . this is not an attempt to tell in other words the story of Jesus of Nazareth; *its* Jesus is named Julian, he operates in somewhere like Poland in sometime like the 19th C., he is much more like the Jesus of the

Gnostics, even more like the Jesus of Celsus, than the Gospel one. I never thought to see a modern novel open with a quotation from the *Pistis Sophia*, and while I will not deny that is theoretically a very rich field for speculation, I must say that the point of the book (if it has one) eludes me. The parallels are hammered home as with a goldbeater's mallet, there is a good deal of picturesque language; and while the story is most certainly not successful, I certainly think that Miss MacEwen (she is Canadian, and I am always glad to see Canadian books made available in a United States much too ignorant of what goes on North of the famous Undefined Border) will give us successful books yet. One specific cavil: She engages in the kind of rhapsodising on the Hassidim peculiar to people who have little or no first-hand knowledge about them. They do *not* spend all of their time in joyful dance; they did *not* reject the Study of the Book. And it will be pertinent for me to recall here the story, *lehavdil*, of the French philosopher who, asked by a young man how to create a new religion, replied: "It is easy. You have only to get yourself crucified, and then rise on the third day."

**COGOL'S WIFE AND OTHER STORIES, Tommaso Landolfi, New Directions.** \$4.00 (paper, \$1.95)

Somewhere long ago I read that if jokes told on the pre-WW I German transatlantic liners didn't go over well the narrator had only to add, "They told this to the Kaiser, and he enjoyed it very much," for an after-volley of laughter to be instantly produced. I sometimes think that something of this sort is being resorted to in literature nowadays. Writers of inferior merit who have nothing much to write about are being forced upon us in the name, not of the Kaiser, but of Kafka. Kafka was Kafka, nobody else should be Kafka, if Zilch, "the Bessarabian Kafka," were any good, he would be good as Zilch; if he can only be good as another Kafka, he's no good. We are asked to believe that Tommaso Landolfi is "the Italian Kafka." He's not very good. His work is also described as "being fantasy of a kind not often met with nowadays"—for my part, I meet with it far too often: introspection mixed with reflections on house-hold drainage. If Europe had better drains we would all be far better off. I take off my hat to the American plumber.

Anyway, the title story is reminiscent of Philip Wylie's book about what happened when all women vanished: Gogol has an inflatable rubber wife which, or who, takes on a kind of feeble life of its own. Bad taste. *Dialogue on the Greater Harmonies* . . . man learns to write poetry in a

non-existent language; author takes the mickey out of lit. critics. Ho-hum. In *Two Old Maids* a monkey says mass and occasions a lot of juvenile and jejune infidog-gling. *Wedding Night*, a symbolism about Death, Marriage, and Chimney Sweeps. *The Death of the King of France*—you know, almost a sure sign of this type pseudokafka is the presence of characters named X or Y or (as in this case) So-and-So. Story not without merit, but spoiled by too much stylistic doodling. (Voice from the audience: "You should talk!") *Giovanni and His Wife* is mildly interesting. *Sunstroke*, about an owl and two hunters, is really not bad. The nearest to our sort of Fantasy is *Pastoral*, a tale of hibernation in a remote village. Jacket design by David Ford is both arresting and fitting. But . . . please, publishers . . . no more Kafkas, huh?

**THE WANTING SEED, Anthony Burgess, W. W. Norton, \$3.95**

Inasmuch I rather savaged Mr. Burgess's last book (*A Clockwork Orange*,) as being incomprehensible and—to me, at least—unreadable, it is with pleasure that I report that his newest work is neither. It begins with Beatrice-Joanna Foxe. She is the wife of Tristram Foxe, a secondary school history teacher, she has born him a son, and she regularly

cuckolds him with his brother Derek, an official of the Ministry of Infertility. The child has just died "in hospital" and the opening scene (which is in a government office—not the Health Department, though: the Ministry of Agriculture (Phosphorous Reclamation Department)!) is rather reminiscent of *Brave New World*. Much of the book does have a Huxleyan flavor, but that's not a bad flavor to have; and parts of it are shot through with flashes of savage satire reminding me of Evelyn Waugh at his best.

Anyway, here we are in England, way past 1984. It is *Pelphase*, the period of Pelagianism . . . liberalism. It might not seem so liberal to us. The intensely overpopulated, barely-fed world limits births to one per couple . . . but the limit is not enforced strictly. The world, says Tristram, constantly shifts between Pelagianism and the strict Augustinianism. When, after the also inevi-

table *Interphase*, society pops again into *Gusphase*, things become really grim, savage. The ruling class, in which sexual inverts and castrati predominate—nothing so much scorned as Normal Love, which leads to Breeding—loses control. "Nay, but we will eat flesh!" cries the multitude. The logical aftercry has, in this case, nothing to do with quail, but with the concluding line of the old medieval charm: ". . . take the red knife and eat red bread." This part is not for the exceedingly squeamish, but the author handles it well.

Tristram's odyssey, from contented midclass stodginess to prison, through the horrors of the "private dining clubs," the Ravelasian recrudescence of Merrie England, the mystifying but —finally—evil logic of the "Ministry of War" corporation, brings him in the end back to Beatrice-Joanna, Sea-Maiden and Earth Mother. It's a grim journey, yet a humorous one, and the author offers no solutions.

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#### PUBLICATION NOTED:

Anderson, Poul. *Star Ways*. Ace. 35¢  
 Asimov, Isaac. *I, Robot*. Doubleday. \$3.50. Re-issued.  
 Asimov, Isaac. *View From A Height*. Doubleday. \$4.50. Essays on several sciences collected from this magazine.  
 Conklin, Groff, ed. *Great Stories of Space Travel*. Grosset. 50¢. Juv.

Heinlein, Robert. *Glory Road*. Putnam. \$3.95. A shorter version was serialized in this magazine (July-Sept. 1963).  
 Knight, Damon, ed. *First Flight, Maiden Voyages in Space and Time*. Lancer. 50¢  
 Russell, Eric Frank. *Dreadful Sanctuary*. Lancer. 75¢  
 Simak, Clifford D. *Strangers in the Universe*. Berkley. 50¢

*Although this latest Ron Goulart story displays his unmatched talent for the reductio ad absurdum, it is not basically a funny story at all.*

## INTO THE SHOP

by Ron Goulart

THE WAITRESS SCREAMED, that was the trouble with live help, and made a flapping motion with her extended arm. Stu Clemens swung sideways in the booth and looked out through the green tinted window at the parking lot. A dark haired man in his early thirties was slumping to his knees, his hands flickering at his sides. Silently the lawagon spun back out of its parking place and rolled nearer to the fallen man.

"There's nobody in that car," said the waitress, dropping a cup of coffee.

She must be new to this planet, from one of the sticks systems maybe. "It's my car," said Clemens, flipping the napkin toggle on the table and then tossing her one when it popped up. "Here, wipe your uniform off. That's a lawagon and it knows what it's doing."

The waitress put the napkin up to her face and turned away.

Out in the lot the lawagon had

the man trussed up. It stunned him again for safety and then it flipped him into the back seat for interrogation and identification. "It never makes a mistake," said Clemens to the waitress' back. "I've been Marshall in Territory #23 for a year now and that lawagon has never made a mistake. They build them that way."

The car had apparently given the suspect an injection and he had fallen over out of sight. Three more napkins popped up out of the table unasked. "Damn it," said Clemens and pounded the outlet with his fist once sharply.

"It does that sometimes," said the waitress, looking again at Clemens, but no further. She handed him his check card.

Clemens' touched the waitress' arm as he got up. "Don't worry now. The law is always fair on Barnum. I'm sorry you had to see a criminal up close like that."

"He just had the businessman's lunch," the waitress said.

"Well, even criminals have to eat." Clemens paid the cash register and it let him out of the drive in oasis.

The cars that had been parked near the lawagon were gone now. When people were in trouble they welcomed the law but other times they stayed clear. Clemens grimaced, glancing at the dry yellow country beyond the oasis restaurant. He had just cleaned up an investigation and was heading back to his office in Hub #23. He still had an hour to travel. Lighting a cigarette he started for the lawagon. He was curious to see who his car had apprehended.

"This is a public service announcement," announced the lawagon from its roof speakers. "Sheldon Kloog, wanted murderer, has just been captured by Lawagon A10. Trial has been held, a verdict of guilty brought in, death sentenced and the sentence carried out as prescribed by law. This has been a public service announcement from the Barnum Law Bureau."

Clemens ran to the car. This was a break. Sheldon Kloog was being hunted across eleven territories for murdering his wife and dismantling all their household androids. At the driver's door the marshall took his ID cards out of his grey trouser pocket and at the same time gave the day's passwords to the lawagon. He next gave the countersigns and the oath

of fealty and the car let him in.

Behind the wheel Clemens said, "Congratulations. How'd you spot him?"

The lawagon's dash speaker answered, "Made a positive identification 5 seconds after Kloog stepped out of the place. Surprised you didn't spot him. Was undisguised and had all the tell-tale marks of a homicide prone."

"He wasn't sitting in my part of the restaurant. Sorry." Clemens cocked his head and looked into the empty back seat. The lawagons had the option of holding murderers for full cybernetic trial in one of the territorial hubs or, if the murderer checked out strongly guilty and seemed dangerous, executing them on the spot. "Where is he?"

The glove compartment fell open and an opaque white jar rolled out. Clemens caught it. *Earthly Remains Of Sheldon Kloog*, read the label. The disintegrator didn't leave much.

Putting the jar back Clemens said, "Did you send photos, prints, retinal patterns and the rest on to my office?"

"Of course," said the car. "Plus a full transcript of the trial. Everything in quadruplicate."

"Good," said Clemens. "I'm glad we got Kloog and he's out of the way." He lit a fresh cigarette and put his hands on the wheel. The car could drive on automatic or manual. Clemens preferred to

steer himself. "Start up and head for the hub. And get me my Junior Marshall on the line."

"Yes, sir," said the car.

"Your voice has a little too much treble," said Clemens, turning the lawagon on to the smooth black six lane roadway that pointed flat and straight toward Hub #23.

"Sorry. I'll fix it. This is a public announcement. This is a public announcement. Better?"

"Fine. Now get me Kepling."

"Check, sir."

Clemens watched a flock of dot sized birds circle far out over the desert. He moistened his lips and leaned back slightly.

"Jr. Marshall Kepling here," came a voice from the dash.

"Kepling," said Clemens, "a packet of assorted ID material should have come out of the teleport slot a few minutes ago. Keep a copy for our files and send the rest on to Law Bureau Central in Hub #1."

"Right, sir."

"We just got that murderer, Sheldon Kloog."

"Good work. Shall I pencil him in for a trial at Cybernetics Hall?"

"We already had the trail," said Clemens. "Anything else new?"

"Looks like trouble out near Townten. Might be a sex crime."

"What exactly?"

"I'm not sure, sir," said Kepling. "The report is rather vague.

You know how the android patrols out in the towns are. I dispatched a mechanical deputy about an hour ago and he should reach there by mid afternoon. If there's a real case I can drive our lawagon over after you get back here."

Clemens frowned. "What's the victim's name?"

"Just a minute. Yeah, here it is. Marmon, Dianne. Age 25, height 5'6", weight . . ."

Clemens had twisted the wheel violently to the right. "Stop," he said to the lawagon as it shimmied off the roading. "Dianne Marmon, Kepling?"

"That's right. Do you know her?"

"What are the details you have on the crime?"

"The girl is employed at Statistics Warehouse in Townten. She didn't appear at work this morning and a routine check by a personnel andy found evidence of a struggle in her apartment. The patrol says there are no signs of theft. So kidnapping for some purpose seems likely. You may remember that last week's report from Crime Trends said there might be an upswing of sex crimes in the outlying areas like Townten this season. That's why I said it might be a sex crime. Do you know the girl?"

Clemens had known her five years ago, when they had both been at the Junior Campus of Hub #23 State College together. Di-

anne was a pretty blonde girl. Clemens had dated her fairly often but lost track of her when he'd transferred to the Police Academy for his final year. "I'll handle this case myself," he said. "Should take me a little over two hours to get to Townten. I'll check with you enroute. Let me know at once if anything important comes in before that."

"Yes, sir. You do know her then?"

"I know her," said Clemens. To the lawagon he said, "Turn around and get us to Townten fast."

"Yes, sir," said the car.

Beyond Townseven, climbing the wide road that curved between the flat fields of yellow grain, the call from Jr. Marshall Kepling came. "Sir," said Kepling. "The patrol androids have been checking out witnesses. No one saw the girl after eleven last night. That was when she came home to her apartment. She was wearing a green coat, orange dress, green accessories. There was some noise heard in the apartment but no one thought much of it. That was a little after eleven. Seems like someone jimmied the alarm system for her place and got in. That's all so far. No prints or anything."

"Damn it," said Clemens. "It must be a real kidnapping then. And I'm an hour from Townten.

Well, the lawagon will catch the guy. There has to be time."

"One other thing," said Kepling.

"About Dianne Marmon?"

"No, about Sheldon Kloog."

"What?"

"Central has a report that Sheldon Kloog turned himself in at a public surrender booth in a park over in Territory #20 this morning. All the ID material matches. Whereas the stuff we sent shows a complete negative."

"What are they talking about? We caught Kloog."

"Not according to Central."

"It's impossible. The car doesn't make mistakes, Kepling."

"Central is going to make a full checkup as soon as you get back from this kidnapping case."

"They're wrong," said Clemens. "Okay. So keep me filled in on Dianne Marmon."

"Right, sir," said the Jr. Marshall, signing off.

To his lawagon Clemens said, "What do you think is going on? You couldn't have made a mistake about Sheldon Kloog. Could you?"

The car became absolutely silent and coasted off the road, brushing the invisible shield around the grain fields. Everything had stopped functioning.

"I didn't order you to pull off," said Clemens.

The car did not respond.

Lawagons weren't supposed to break down. And if they did,

which rarely happened, they were supposed to repair themselves. Clemens couldn't get Lawagon-A10 to do anything. It was completely dead. There was no way even to signal for help.

"For god's sake," said Clemens. There was an hour between him and Dianne. More than an hour now. He tried to make himself not think of her, of what might be happening. Of what might have already happened.

Clemens got out of the lawagon, stood back a few feet from it. "One more time," he said, "will you start?"

Nothing.

He turned and started jogging back toward Townseven. The heat of the day seemed to take all the moisture out of him, to make him dry and brittle. This shouldn't have happened. Not when someone he cared for was in danger. Not now.

Emergency Central couldn't promise him a repair man until the swing shift came on in a quarter of an hour. Clemens requested assistance, a couple of lawagons at least from the surrounding territories. Territory #20 had had a reactor accident and couldn't spare theirs. Territory #21 promised to send a lawagon and a Jr. Marshall over to Townten to pick up the trail of Dianne Marmon's kidnapper as soon as the lawagon was free. Territory

#22 promised the same, although they didn't think their car would be available until after nightfall. Clemens finally ordered his own Jr. Marshall to fly over to Townten and do the best he could until a lawagon arrived. A live Jr. Marshall sure as hell couldn't do much, though. Not what a lawagon could.

The little Townseven cafe he was calling from was fully automatic and Clemens sat down at a coffee table to wait for the repairman to arrive. The round light blue room was empty except for a hunched old man who was sitting at a breakfast table, ordering side orders of hash browns one after another. When he'd filled the surface of the table he started a second layer. He didn't seem to be eating any of the food.

Clemens drank the cup of coffee that came up out of his table and ignored the old man. It was probably a case for a Psych Wagon but Clemens didn't feel up to going through the trouble of turning the man in. He finished his coffee. A car stopped outside and Clemens jumped up. It was just a customer.

"How can I do that?" said the repairman as he and Clemens went down the ramp of the automatic cafe. "Look." He pointed across the parking area at his small one man scooter.

Clemens shook his head. "It's



nearly sundown. A girl's life is in danger. Damn, if I have to wait here until you fix the lawagon and bring it back I'll lose that much more time."

"I'm sorry," said the small sun-worn man. "I can't take you out to where the car is. The bureau says these scooters are not to carry passengers. So if I put more than 200 pounds on it it just turns off and won't go at all."

"Okay, okay." There were no cars in the parking lot, no one to commandeer.

"You told me where your lawagon is. I can find it if it's right on the highway. You wait."

"How long?"

The repairman shrugged. "Those babies don't break down much. But when they do. Could be a while. Overnight maybe."

"Overnight?" Clemens grabbed the man's arm. "You're kidding."

"Don't break my damn arm or it'll take that much longer."

"I'm sorry. I'll wait here. You'll drive the lawagon back?"

"Yeah. I got a special set of ID cards and passwords so I can get its hood up and drive it. Go inside and have a cup of coffee."

"Sure," said Clemens. "Thanks."

"Do my best."

"Do you know anything about the dinner-for-two tables?" the thin loose-suited young man asked Clemens.

Clemens had taken the table

nearest the door and was looking out at the twilight roadway. "Beg pardon?"

"We put money in for a candle and nothing happened, except that when the asparagus arrived its ends were lit. This is my first date with this girl, marshall, and I want to make a good impression."

"Hit the outlet with your fist," said Clemens, turning away.

"Thank you, sir."

Clemens got up and went in to call the Law Bureau answering service in Townten. The automatic voice told him that Jr. Marshall Kepling had just arrived and reported in. He was on his way to the victim's apartment. No other news.

"She's not a victim," said Clemens and cut off.

"Arrest those two," said the old man, reaching for Clemens as he came out of the phone alcove.

"Why?"

"They shot a candle at my table and scattered my potatoes to here and gone."

The young man ran up. "I hit the table like you said and the candle came out. Only it went sailing all the way across the room."

"Young people," said the old man.

"Here," said Clemens. He gave both of them some cash. "Start all over again."

"That's not," started the old man.

Clemens saw something coming down the dark road. He pushed free and ran outside.

As he reached the roadway the lawagon slowed and stopped. There was no one inside.

"Welcome aboard," said the car.

Clements went through the identification ritual, looking off along the roadway, and got in. "Where's the repairman? Did he send you on in alone?"

"I saw through him, sir," said the lawagon. "Shall we proceed to Townten?"

"Yes. Step on it," said Clemens. "But what do you mean you saw through him?"

The glove compartment dropped open. There were two white jars in it now. "Sheldon Kloog won't bother us anymore, sir. I have just apprehended and tried him. He was disguised as a repairman and made an attempt to dismantle an official Law Bureau vehicle. That offense, plus his murder record, made only one course of action possible."

Clemens swallowed, making himself not even tighten his grip on the wheel. If he said anything the car might stop again. There was something wrong. As soon as Dianne was safe Lawagon-A10 would have to go into the shop for a thorough checkup. Right now Clemens needed the car badly, needed what it could do. They had to track down whoever had

kidnapped Dianne. "Good work," he said evenly.

The headlights hit the cliffs that bordered the narrow road and long ragged shadows crept up the hillside ahead of them.

"I think we're closing in," said Clemens. He was talking to Jr. Marshall Kepling who he'd left back at the Law Bureau answering service in Townten. He had cautioned Kepling to make no mention of the Kloog business while the car could hear them.

"Central verifies the ID on the kidnapper from the prints we found," said Kepling. Surprisingly Kepling had found fingerprints in Dianne's apartment that the andy patrol and the mechanical deputy had missed. "It is Jim Otterson. Up to now he's only done short sentence stuff."

"Good," said Clemens. That meant that Otterson might not harm Dianne. Unless this was the time he'd picked to cross over. "The lawagon," said Clemens, "is holding onto his trail. We should get him now anytime. He's on foot now and the girl is definitely still with him the car says. We're closing in."

"Good luck," said Kepling.

"Thanks." Clemens signed off.

Things had speeded up once he and the lawagon had reached Townten. Clemens had known that. The lawagon had had no trouble picking up the scent.

Now, late at night, they were some twenty five miles out of Townten. They'd found Otterson's car seven miles back with its clutch burned out. The auto had been there, off the unpaved back road, for about four hours. Otterson had driven around in great zigzags. Apparently he had spent the whole of the night after the kidnapping in a deserted storehouse about fifty miles from Townten. He had left there, according to the lawagon, about noon and headed toward Towneleven. Then he had doubled back again, swinging in near Townten. Clemens and the lawagon had spent hours circling around on Otterson's trail. With no more car Otterman and the girl couldn't have come much further than where Clemens and the lawagon were now.

The lawagon turned off the road and bumped across a rocky plateau. It swung around and stopped. Up above was a high flat cliff side, dotted with caves. "Up there, I'd say," said the lawagon. It had silenced its engine.

"Okay," said Clemens. There wasn't much chance of sneaking up on Otterson if he was up in one of those caves. Clemens would have to risk trying to talk to him. "Shoot the lights up there and turn on the speakers."

Two spotlights hit the cliff and a hand mike came up out of the dash. Taking it, Clemens climbed out of the lawagon. "Otterson, this

is Marshall Clemens. I'm asking you to surrender. If you don't I'll have to use stun gas on you. We know you're in one of those caves and we can check each one off if we have to. Give up."

Clemens waited. Then half way up the cliffside something green flashed and then came hurtling down. It pinwheeled down the mountain and fell past the plateau.

"What the hell." Clemens ran forward. There was a gully between the cliff and the plateau, narrow and about thirty feet deep. At its bottom now was something. It might be Dianne, arms tangled over interlaced brush.

"Get me a handlight and a line," he called to the lawagon.

Without moving the car lobbed a handbeam to him and sent a thin cord snaking over the ground. "Check."

"Cover the caves. I'm going down to see what that was that fell."

"Ready?"

Clemens hooked the light on his belt and gripped the line. He backed over the plateau edge. "Okay, ready."

The line was slowly let out and Clemens started down. Near the brush he caught a rock and let go of the line. He unhitched the light and swung it. He exhaled sharply. What had fallen was only an empty coat. Otterson was trying to decoy them. "Watch

out," Clemens shouted to his car. "It's not the girl. He may try to make a break now."

He steadied himself and reached for the rope. Its end snapped out at him and before he could catch it it whirled up and out of sight. "Hey, the rope. Send it back."

"Emergency," announced the lawagon, its engine coming on.

Up above a blaster sizzled and rock clattered. Clemens yanked out his pistol and looked up. Down the hillside a man was coming, carrying a bound up girl in his arms. His big hands showed and they held pistols. Dianne was gagged but seemed to be alive. Otterson zigzagged down, using the girl for a shield. He was firing not at Clemens but at the lawagon. He jumped across the gully to a plateau about twenty yards from where Clemens had started over.

Holstering his gun Clemens started to climb. He was half way up when he heard Otterson cry out. Then there was no sound at all.

Clemens tried to climb faster but could not. The gully side was jagged and hard to hold on to. Finally he swung himself up on the plateau.

"This is a public service announcement," said the lawagon. "Sheldon Kloog and his female accomplice have been captured, tried, sentenced and executed. This message comes to you from the Law Bureau. Thank you."

Clemens roared. He grabbed up a rock in each hand and went charging at the car. "You've killed Dianne," he shouted. "You crazy damn machine."

The lawagon turned and started rolling toward him. "No you don't, Kloog," it said.

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**COMING NEXT MONTH . . .**

**THE ILLUMINATED MAN**      **by J. G. Ballard**

**A RED HEART AND BLUE ROSES**

**by Mildred Clingerman**

**AND SOON . . .**

**A new short novel by PHILIP K. DICK, winner of last year's "Hugo" award.**

*This story, which might have been written by Saki—had he ever fallen under the influence of Truman Capote—was actually written by a former teacher at federal Indian schools in New Mexico. Henry Shultz is now the Resident Head of Coulter (graduate) House at the University of Chicago; his short stories have been published in Esquire, SEPost, Cosmopolitan, university quarterlies and “little” magazines and have been anthologized in the O. HENRY AWARD PRIZE STORIES and BEST AMERICAN SHORT STORIES; he is the former music critic of the Albuquerque Tribune. This little gem of a story concerns the mysterious Oreste, pledged as a child to the concierge for his mother’s unpaid rent (an experience from which he in all probability never quite recovered); the remarkable child Titus, author extraordinary at the age of eight: cruel and unreachable, though not without a kind of fatal innocence; and some mountain people of utterly inexplicable malevolence.*

## ORESTE

by Henry Shultz

ELIZABETH AND WILLIAM NOIL-ly-Pratt are among my best friends, although I cannot say that I have ever perfectly understood them. In the old days, I saw them every day: it was my unvarying custom to stop by their house in the afternoons for a drink on my way home from work. I would walk in without knocking and go straight to the high-ceilinged old drawing room,

so cool after the blazing Natchez sun, and find them there, talking quietly together or reading. William would always rise to greet me with a grave little bow, and Elizabeth would extend her cool fingers for me to kiss. “Would you care for something to drink?” one of them would always ask me; and then Elizabeth would extend her arm straight up in the air, the nar-

row shafts of sun which came through the bamboo blinds at the west end of the darkened room making little bands of bright light on her bare arm, and snap her fingers for the servant—an old Chinese, incongruous in that Natchez drawing room—to order my drink brought to me.

Their two children, Valerian and Titus, were yet infants—Valerian was perhaps two and Titus still in his cradle—and were never in evidence and seldom talked about. Elizabeth and William were not the sort to trouble their friends with anecdotes from the nursery, and, consequently, their offspring remained without personality for me until they were a good deal older. But William and I talked much of our own childhood together, and of William's brothers, one of whom had roomed with me at the university.

Of Elizabeth's brothers I knew only the two who had been at the university while I was there. I was acquainted with none of the rest of her family, for she was from another state—West Virginia, I believe: we had never heard much about it—and in particular I had for some time felt myself, though I had known her for ten years, kept deliberately in ignorance, by means which I cannot identify or name, of all knowledge of her third brother, Oreste.

He had been born in France, I knew; but, whenever I questioned

Elizabeth or William about him—in a casual way, of course, since I had never even seen him—they would look at each other through the slanting shafts of late-afternoon sunlight there in their cool high-ceilinged room, and William would raise his glass to Elizabeth, and Elizabeth, smiling her dark enigmatic smile, would say, "Oreste? I'm afraid that we don't have any very *recent* intelligence of him." I did not know that he was, even then, in Natchez.

He was a writer, I learned from somebody else, but beyond this I could not go, nor ever learn whether he had published, nor even what he wrote. When I taxed William one afternoon, he answered—after first giving Elizabeth a look over the rim of his glass—"We are not quite sure whether he would want us to talk about his writing at this point." Naturally, I never enquired further into the matter.

Later on, having disposed of my businesses, I removed to the North and settled in a small community on the side of a mountain, where I could pursue my studies in relative seclusion; and there, after some years, came also Elizabeth and William, at my suggestion, to take up their abode, with all their household.

They took a house farther up the mountainside and moved in all in one day, with four immense van loads of possessions, and their ser-

vants; but it was all done without a flutter, and when I went to call on them one afternoon two or three days later, it was as if they had been established there from the beginning, with Elizabeth and William sitting in their old positions in the darkened drawing room (the bamboo blinds, brought from Natchez, once more drawn against the sinking sun), talking quietly together as I entered (but admitted, this time, by a servant); and Elizabeth once more raising her arm, as in the Natchez room, to snap her fingers for the ancient Chinese to bring me my drink.

By this time their children were grown older and were much in evidence, and I began to grow fond of them, having none of my own. Valerian was ten. He had never been to school (Elizabeth, I learned, devoted part of each day to her boys' education) and had apparently never played with any other children of his age; but for all this he seemed to me a perfectly "adjusted" lad. He was extremely intelligent, very handsome, and I greatly enjoyed conversing with him—for he came to see me, after they became my neighbors, nearly every day.

Titus, the younger, was another thing altogether. He kept much to himself, although he was only eight, and I sensed in him a wild and fiercely independent spirit. The children now took their meals with the parents, even when there

were guests, and I observed on a number of occasions that Titus violated the customs of their table precisely in order (so it seemed to me) that he might invite the censure of his father, so that (in turn) he might ignore it and persist unconcernedly in his violations, which, he understood, his father could not altogether stop without the danger of a scene at table.

I learned that he was already composing music, although only eight; and one evening, half a year or so after I had received this intelligence, William showed me, in some agitation, the manuscript on which Titus was currently working. This appeared to me, on first glance, to be somewhat familiar. It was an immensely complex orchestral work; but it was only after I began to scrutinize it closely that I came to realize that lengthy passages of it were identical with parts of the Mahler Sixth Symphony, which he had certainly never heard and of which, so far as I knew, he had never even seen the score.

"This is extraordinary," I said, handing the manuscript back to William. "Do you recognize it?"

"Mahler," said William.

"How do you account for it?"

"We can't," answered William, "except on the grounds that he is some kind of genius."

A few days later the boy was in my house and I asked him if he would care to play for me. He fa-

voured me with a curious look, sat down at my piano, and played—very badly—a simple-minded little piece such as any ordinary child his age might have played when called upon to perform; and then, smiling inscrutably, slid from the piano bench, gave me a parody of a concert pianist's bow, and betook himself to the kitchen for cookies from my cook, for he was not allowed sweets between meals at home.

I think he knew that I thought he had traduced me; for a week later, as he stood by my side while I inspected some lizards the gardener had caught in the rock garden, he suddenly announced, without preamble, "I *really* can't play the piano very well, you know."

I glanced at him in surprise, and his eyes fell to the ground while he blushed. I thought of saying something to him about the Mahler Sixth, but a *je-ne-sais-quoi* in his attitude caused me to forbear; and I was not at all sure, in any event, that William would have wanted him to know that I had been shown the manuscript.

"I *write* music, though," he added, for he had been reading my thoughts; "but that's different."

"Many composers are rotten performers," I told him, as a sop.

"Am I rotten, then?" he asked, and picked a lizard out of the can. "My father says their tails come off—" and with that he twisted

the tail from the lizard he was holding. Fortunately it was of a species whose tails come off easily.

"If you want that lizard," I told him, "you may have it. Take care of it well and you may see whether or not it grows a new tail."

"I don't like lizards," he answered me. "I'll see that its tail doesn't ever come back." And thereupon he tossed the lizard over the edge of the mountain, where we were standing, into the gorge which yawned at our feet. The creature could not have survived. "I try not to be fascinated by animals," he said, turning on his heel and marching away.

On subsequent occasions I discovered that Titus was also an author. One afternoon, when Elizabeth was said to be resting in her room and William and I had had to take our drinks alone, he pulled a key from his pocket during a lull in our conversation and, walking swiftly across the room to the *escritoire*, unlocked its drawer and lifted therefrom a manuscript, written in a childish but perfectly legible and fluent hand, entitled—as I saw when he deposited it, without a word, in my lap—"The Manx Cat Entailed."

I started reading immediately the first pages and was soon overwhelmed by the subtlety of the style and the strong grip which it exercised, from its opening sentences, on my imagination. But then, as I read on, I began to real-



ize that such powerful passages alternated with others of a more than childish clumsiness and naïveté, and I finished the story in a state of bewilderment. As I laid the sheaf of papers on the table at my side, I raised my eyes in query to William. He nodded in confirmation.

"Titus," he said quietly.

"Good God," I said; "he's only eight."

"I know," said William. "That's just it."

I was not surprised, some weeks later, therefore, to discover Titus carrying a large box of manuscript into my summerhouse, which he knew I did not use in the afternoons and which I had told him he might occupy at those times.

"You are writing something?" I asked him. He lifted the lid of the box and flipped through half a ream of closely written manuscript.

"A book," he said. "It is not finished yet."

"Do you find it difficult to write a book?" I enquired of him, for I was curious.

"Not—difficult," he answered me, pursing his lips. "But I am always very tired afterwards." Then he excused himself and retired to my summerhouse.

During these days, I rarely heard of Oreste; but one afternoon, as Elizabeth and William and I sat over our drinks in their darkened drawing room, Valerian

came dashing into our company with a letter clutched in his hand.

"The mail's here!" he shouted, "and there's a letter from Uncle Oreste!"

"Oh, let me see," cried Elizabeth, taking it from him; and then: "Do excuse us," she said to me, ripping open the envelope with an ill-concealed trembling of her cool fingers. "We hear from him so seldom."

As she read the letter—her lips parted and her small breasts rising and falling as if she had just come walking too hurriedly up the mountainside—William resumed, in his gentle voice, his conversation with me on the subject of mediaeval alchemy, his current study. When Elizabeth finished the letter, she handed it without a word to William, who took it from her with a badly disguised show of indifference, and Elizabeth took over William's conversation in the middle of his sentence, so that it was with more than a modicum of surprise, after several seconds of listening to Elizabeth's voice instead of to William's, that I suddenly was aware of the fact that a horse, so to speak, had been changed in midstream.

But, while giving to Elizabeth every sign of polite and interested attention, I now turned on William, nevertheless, as much covert scrutiny as, under the circumstances, I could manage; and thus it was, by this means, that I came

to realize that a crisis was in full bloom.

For William was surely in a state of agitation: he kept swigging at his drink, which he usually sipped; and, when he finally picked it up and drained the remaining half of it at a gulp, Elizabeth, whose eye, I noticed, had never strayed far from him throughout her recital to me of his studies in mediaeval alchemy, immediately stretched her arm into the air and snapped her fingers for the old Chinese to bring him another, though he never took two.

William finished the letter, looked at Elizabeth over the rim of his glass, and said: "Well?"

"We'd better tell him at once," she said, indicating me with a wave of her drink.

"Oreste is coming here," said William.

"Oreste!" was all I could say.

"He is a hopeless alcoholic," said Elizabeth.

"And sometimes a little peculiar to boot," added William.

"I'm so sorry," I said. "Tell me, is there not a little something, perhaps, that I could do, to make things easier for you while he is here?"

"Put a sign on the road directing him over the side of the cliff," said William gently.

"Oh, William!" protested Elizabeth. "You will be misunderstood!"

Then I enquired: "In what

way—I trust this question doesn't intrude on you too closely—is Oreste, as you say, peculiar?"

"We can't really say," replied William. "We have tried to understand it, we have even called in psychiatrists, but we are really not exactly sure. For the past few years, however, it has seemed to take the singular form of an obsession that someone has been stealing his writings away from him." He raised his leg and scratched a match on the seat of his pants—an old-fashioned habit from his university days, for which, to accommodate it, he had had his trousers especially tailored ever since.

"It has something to do with telepathy," said Elizabeth. "He doesn't actually believe that we physically take his manuscripts away from him."

"As a matter of fact," said William, "we have never even seen any of his manuscripts."

"He believes, then, that you in this house are stealing his manuscripts," I said.

"Of course," said Elizabeth, "it's all some kind of delusion arising from his drinking; but it is most painful for *us*. One doesn't like to be thought a thief. And we have tried to help Oreste in *every* way."

Then they told me how they had set up an establishment for Oreste in Natchez, and had hired people to look after him and to attend to his wants and comforts.

They had even gone so far as to hire a young Negress, a woman of some nursing experience, whom William had given to understand, at the time, that no objection would be raised if, other factors being equal, she became Oreste's mistress in due course; but she had made off with so many furnishings from the house, which Oreste never missed, presenting them to her large *Freundschaft* over a period of eighteen months, that William was forced, finally, to give her notice. She never did become Oreste's mistress, nor did she help him to curb his drinking.

Oreste had been in Natchez all the years I had lived there; but never once had I seen him—never once, I must confess it, had I even suspected his presence there: for William had arranged that Oreste should live in another quarter of the town. . . . We parted that day with the tacit understanding that I, now party to their secret, became part-bearer also of their burthen.

I must say that from this time on I kept rather an eye out for the arrival of Oreste on our mountainside; but, although I frequently sat for hours—sometimes for whole half-days together—on my roof (which I had had fitted out as a sort of terrace for taking measurements of the moon at night), often with my telescope fixed on the road up the mountain from the valley, my labours remained for many days unrewarded.

One day, however, when I was out walking on the mountainside below my place, I stopped by the chasm, which fell away from one edge of the road, to inspect the gardens of the people who lived on these slopes. None of these people had ever manifested much friendliness towards me, and my relationships with them, in consequence, had been confined largely to small purchases from them, by my servants, of eggs, vegetables, woven goods, and what not. I always greeted them when we passed each other on the road, of course, but they did not often trouble to respond.

This day, as it happened, when I saluted with my walking stick a handsome young woman who was picking some kind of berries from her bushes, I was greatly pleased to receive from her in response a very generous smile, and therefore found it not difficult to persuade myself to interrupt my walk in favor of some harmless conversation with her. But it turned out that she did not speak English, nor were any of the other languages that I know successful with her; so that she was reduced, finally, to calling to her side a curly-headed lad of eleven or twelve to interpret for her—a younger brother, as I suppose. Our conversation, chiefly of pleasantries and garden lore, was soon interrupted, however, by the arrival of Oreste.

I say "arrival," although as yet his auto—a convertible of one of the more expensive makes, painted a canary yellow—was all of him that we could see, as it wound slowly round the tortuous curves of the road up the mountain far beneath us. That this was the auto of Oreste I had no doubt: my instincts are infallible in matters of this kind: and so the young woman, the lad, and I watched it with unflagging interest as it climbed closer and closer to us. When it had rounded the last curve but one, and we must have been plainly in sight of its occupants, I pulled off the bandana which I habitually wear tied around my neck in hot weather (to prevent the perspiration from soaking the starch from my collar) and waved it wildly at the people in the car; but the lad who had been standing by me to interpret for the young woman, snatched the handkerchief suddenly from my hand and trampled it angrily into the ground, muttering the while. This is an example of what I mean when I said that these people rarely showed me the ordinary courtesies to which I had become accustomed in other places.

At last, then, the car drew abreast of us, and I was able to get a full view of its occupants. First, Oreste: He could not have been less than forty; but had one not known this previously, he could easily have been taken for twenty,

or even less, if one overlooked an expression of utter cynicism and of self-distrust around his eyes. His skin was clear, white, and with the peculiar transparency often seen in that of newborn infants; and his forehead, also, bulged monstrously like that of a very young baby. His hair contributed its share to his effect of extreme youth, for its texture was silky and of that indefinable colour of a young child's, and appeared, moreover, never to have been brushed—which, however, because it was so fine and so sparse, did not detract from, though it did not add to, his general appearance. . . . As to clothing, I could see a Tyrolean hat, a Norfolk jacket, and a pink Brooks Brothers shirt; and, later, the cravat of a rowing club to which I know he did not belong.

In the back seat of the convertible, in addition to much luggage, all of it covered with the labels of Swiss hotels, sat a large coloured woman, her hair tied in a gingham bandana, like Aunt Jemimah, and an English butler in a bowler, the latter holding between his knees an enormous bird cage filled with brilliantly coloured parakeets, which chattered noisily as, without cessation, they jumped from perch to perch. A little child clung precariously to the rear bumper of the yellow convertible, but he must have been a hitch-hiker picked up somewhere

below by Oreste in a seizure of good spirits.

Oreste pulled the brake of the auto, and I came at last to look directly into his bulging blue eyes and to hear his voice, so strangely musical. His first words to me were discomfiting:

"I've come to get it back," he said, speaking the sentence as if it had been the conclusion to a long paragraph of explanation.

"You will have to leave your car here," I told him, "for I fear the road is not passable higher up, owing to recent avalanches."

Oreste gave some silent directions to his servants in the back seat, and they at once fell to, removing the luggage from the car and stacking it up expertly by the roadside, for all the world as if they had been on a station platform getting their master's things ready against the imminent arrival of a Grand Express DeLuxe.

"Where are they?" demanded Oreste of me. "They'll have to give it up this time. I refuse to let this sort of thing go on any longer."

"I'm certain they're at home," I said. "Perhaps you will permit me to show you the way?"

"I think it's the boy—what's his name," said Oreste, accepting my offer with a nod. "It's a whole damn novel this time."

I began to comprehend; but he was still a few jumps ahead of me, and I was not yet ready to accept horror undiluted. We had

started up the mountainside toward Elizabeth's and William's, Oreste carrying the bird cage, the Negress and the butler struggling along behind us with the rest of the luggage. Oreste was still talking.

"First it was only small things, and I thought then it was lapses —" He stopped and set down the bird cage. "You know—lapses?" I smelt liquor on his breath, and nodded.

"I know," I said.

"You just forget," he said. "You think you have it, and then it's gone. Lapses. But that's to be expected."

"Under the circumstances," I said.

"But then I began to realize after a while that it *wasn't* lapses. I began to smell a rat." He picked up the bird cage.

"Let me carry that for you," I offered, though I had never carried a bird cage before. He surrendered it to me without protest. It was not heavy, though the parakeets kept up a continual squawking—they are unmusical birds—and jumped skittishly from one perch to another.

"You began to smell a rat," I urged him.

"A rat," he repeated, as we resumed our journey up the mountainside. "One time it was an article for the *Yale Review*. I had finished it at four o'clock in the morning—I always write at night,

you know—and then thrown myself down on the couch in my study to sleep. I slept till noon. When I got up and went to my writing table, the manuscript was just where I'd left it. I'm sure it had been undisturbed."

He paused and wiped his brow. "And?" I prompted.

He looked at me searchingly, as if to determine whether I was going to believe what he was on the point of telling me.

"Well," he said finally, "it was all there, all right, but I couldn't read a word of it."

"Eh?"

"I don't know how to describe it to you. It seemed to have—'reshuffled' itself overnight. Parts of it I seemed to recognize—some paragraphs were just as I had written them; but others were now utter gibberish, as if I had struck the typewriter keys at random, in a delirium.

"You may imagine how this made me feel! I thought at first that I must be losing my grip entirely, you know—alcohol and all that. But I'd been on the wagon for a week, and I was sure, at least, that I'd been cold sober when I wrote this article the night before.

"Then I began to examine the manuscript more carefully, and I soon began to realize that much of the apparent gibberish which now stared me in the face was really what I *had* written, but

with the letters of the words now transposed into absolute nonsense. I didn't know what to do, I tell you. I could recollect with perfect clarity my labours of the night before. I had known exactly what I wanted to say, it was all perfectly organized in my mind, and the actual writing had been relatively easy. The only possible explanation for what I now held in my hands was that, somehow, during the mechanics of getting it onto paper, I had gone suddenly barmy."

"Great heavens!" I said. "What a thing to be faced with!"

"It was perfectly frightful," he confirmed.

"But go on," I urged him. "Tell me about the next time."

"The next time," he said. "Ah yes. This next time was a few poems. I am a poet, you know. These were some poems I wrote, about a week later. I was having quite a spell of poetry-writing about then, and some of these verses were more than a little passable. I was quite well pleased with them, as a matter of fact. I had experimented with some of them for over a week, off and on, writing alternate versions of some lines, and so forth—you know how it is with poetry."

I nodded.

"Finally I had them the way I wanted them—at least for the time being," he continued, "and so, late one night, I wrote out fair

copies of all of them—there were six. I read them over and felt reasonably well satisfied that I could not improve them. Then I tore up all the sheets on which I had first worked them out, and tossed the scraps into the fireplace. They made a neat little blaze.

"But I was filled, nevertheless, with an unnamable apprehension, in view of everything that had been happening around there, so I called Harms—he's that butler fellow behind us with the luggage: an extremely trustworthy chap, discreet and all that—and asked him to sit watch on my poems while I threw myself on the couch and slept.

"And the next morning?" I asked.

Oreste stopped walking, at my side. "The next morning," he said, his face drained of all colour, "the pages were absolutely blank!"

"Blank!" I echoed.

"And not only that," continued Oreste, "but lying on my writing table—listen closely!—were the discarded versions that I had torn up and burned the night before, just as they had appeared before I destroyed them, except for tiny, almost imperceptible lines, deeply encased in the paper, like ancient watermarks, which I have no doubt corresponded to the pieces they had been torn into."

"But Harms!" I interrupted.

"Harms," said Oreste, very calmly and seriously, "Harms

swears—and I believe him implicitly—that no one entered or left the room while he was there, which was the entire time I was sleeping. He says, further, that once, as I slept, I cried out something which he took to be a warning, but he could make nothing of my words and, reluctant to awaken me, contented himself with seeing that all the windows were locked and that no one was in the passageway outside the door."

"Good God," I said, "what an extraordinary business!"

"That is not the end of this story," continued Oreste, holding up his hand to forestall further comment from me.

"Go on," I begged him.

"I tried, naturally, to rewrite the poems in their final versions; but, for some strange reason, I seemed to suffer total amnesia with respect to them, and could not recall a single line. Even with the experimental versions before me—the ones (if you will forgive me the use of this term) so 'supernaturally' resurrected from their ashes—I could not reconstruct a single line of the final versions.

"And then"—he paused portentously—"and then, finally, four months later, I read my own final versions in *The Criterion*. I recognized them immediately."

"*The Criterion*!" I could not help gasping.

"They were labelled *Six Lyrics by a Six-Year-Old*, and there was

a note saying that they had been submitted by a well-known American scholar as the work of his six-year-old son, whom he preferred to keep in anonymity until he should be of a better age to cope with fame."

"Do you know for sure if it was William who sent them in?"

"I cabled the magazine," he said, "and they replied that the poems had indeed been submitted by my brother-in-law."

"Did this take place before or after they left Natchez?" I asked.

"Before," he replied. "It began quite a while before they moved here; but of course it's been going on ever since they came up here, too."

"Then there have been more instances than just these two," I said.

"Dozens," said Oreste. "Sometimes I find blank paper in place of what I've written; sometimes, gibberish and nonsense; and, one time, I found a complete substitution."

"Tell me about that," I said.

"It was a critique," said Oreste, stepping around a boulder in the road. "It came about because I had been reading over the scores of the Mahler symphonies and had come to some conclusions about the Sixth Symphony, in particular, which I had never read in any of the standard commentaries. So I wrote a rather learned little essay on this symphony, filled with

musical examples which I intended to insert into the text by means of photo-engravings of parts of the score. It was," he said, smiling rather sadly, "really a very good piece of work, if I do say it myself rather along the Donald Tovey sort of line. I placed no watch over the manuscript this time, for I had given Harms the weekend off, and it was Vilma's night out—she's my cook behind us there, helping Harms with the luggage.

"The next morning, on my writing table, in the precise spot where I'd left it, was my manuscript—*except that it was now no longer my manuscript!* Oh, it was still my handwriting and all that: but it was no longer my article. Instead, there was a brutal little essay, of exactly the length of my article, mostly about Manx cats and other tailless creatures. It was written with all the crudity one would expect from an eight-year-old turned literary, except for a realistic cruelty of detail which, when I read it, made my hair stand on end. It was called, in case you're interested, *How the Lizzards Lost Their Tails*, and it was illustrated with childish drawings in the exact places which I had intended to reserve for my photo-engravings from the Mahler score."

"When was this?" I asked sharply.

Oreste mentioned a date and it



was, of course, precisely the date that I had anticipated.

He licked his lips, took off his Tyrolean hat, and fanned himself with it.

"Let's sit down for a moment," he suggested. "I'm not the mountain climber I once was."

We sat down on a large boulder which lay in the roadway.

"See what your friends are doing," he said, pointing down the mountain.

I looked in the direction towards which he was pointing, and saw the people down there pushing Oreste's car towards the chasm, at the edge of the road. In a moment they had shoved it over the rim, and then we saw it go tumbling end over end into the void, like a toy thrown away; but the distance was so great that we scarcely heard its crash at the bottom.

"They have never really been my friends," I observed.

We sat in silence for a few minutes—an opportunity to rest which Harms and Vilma, behind us, seized also, settling the luggage again in neat stacks—and Oreste continued his strange recital.

"I shall skip over some of the next incidents," he said. "They are mostly of the same order. But then comes the matter of my novel. It was to have been my first real novel, although, of course, when I was living in France a long time ago, I had written a couple of others which I discarded.

"This was to have been a psychological novel of childhood, based on my own childhood in Paris, where, owing to my mother's rather weird mode of life, I grew up in an atmosphere of complete and utter—shall I call it 'unconventionality'?"

At this point he took off his Tyrolean hat once more and gave it a rueful smile.

"I was perfectly familiar, for example, with the effects of opium-smoking by the age of six: but possibly you do not know what opium-smoking can do to the health?"

"I have smoked it for many years," I reassured him.

"Well, then," he replied, satisfied. "And when my mother died, about this time I found that she had pledged me to the concierge, who was childless, as security for her arrears in rent."

"I have never really known whether I am a full or only a half-brother to Elizabeth; but, by the time she had discovered where I was, and, with her husband's connivance, kidnaped me and smuggled me into America, I was already thirty and my character, such as it is, fully developed. . . . She had by this time had one child of her own and was carrying another."

I began to see the connection.

"Your novel," I said to him.

"My novel. Yes. It was based on some experiences of those days,"

he said, "of my life in Paris as a lad; although it was of course not directly autobiographical: I am not that kind of writer.

"It was to have been quite short, and I had it completely plotted. Many passages—especially some descriptive passages, part poetry and so on—were already 'written' in my mind, and needed only setting down on paper. I do much of my writing that way, you know—work things out completely in my head, to the last word, before I ever set pen to paper—and ordinarily I never have any trouble recalling the most minute inflections, even of extensive passages, when the time comes to write them down.

"Well, then, I was, as I say, all ready to begin the actual work of putting down this novel—the thing was fully composed, as you might say, and needed only the mechanical work of transferring it to paper. And then it was stolen from me."

"In the same way as the others?" I asked.

"Not quite," he replied. "This was a great deal worse. For this time, when I awoke in the morning on the day I had set aside to start the actual writing, I found that it was completely gone out of my head."

"Gone out of your head?"

"Absolutely. I could not recall a single word of what I had intended to write, of all I had

planned and knew and loved so well and had thought was so much a part of me. It was all gone—every syllable of it. I had made no notes, of course: it was not the sort of thing I could write from notes. You can see where this left me."

"You imagine, naturally, that the child is responsible?"

"Imagine nothing!" he retorted. "I know perfectly well that he is responsible. How, I have no idea, for he is a fiend of some kind; but that he is responsible for this whole chain of events I haven't the slightest doubt in the world."

"And now you have come to get your novel away from him," I said.

He laughed grimly. "Let me relieve you of those birds," he said, picking up the cage of chattering parakeets.

The house of Elizabeth and William lay concealed behind a grove of trees. The road up the mountainside ended at their gate, which they kept locked, although a driveway continued beyond; but a portable stile, kept handy nearby, solved the problem of the locked gate, and Oreste, his servants, his luggage, his parakeets, and I were soon at the front door.

"They will be drinking at this hour," said Oreste to me.

"I know," I said. "Perhaps it might be wisest, under the circumstances, for you to forego alcohol yourself, at this first interview."

"I never forego alcohol," said Oreste. "But I have taken the precaution of bringing my own. In strange houses, one never knows —"

"Oh, come, my dear fellow!" I protested. "This is not a strange house, as you call it. Why, I drink here every afternoon, myself; and I've known William since he was in diapers."

Oreste looked at me with sudden suspicion. "You are not revealing yourself a turn-coat, by any chance?" he asked me.

"My dear chap!" I cried. "Please don't be alarmed. It's just that I find incredible the thought that William or your own sister would—" I was at a loss for proper words.

"Remember," he interrupted me, "that I am not sure that she really is my own sister."

"She always speaks of you with great sisterly affection and concern," I told him.

"A plot," he said.

It was the ancient Chinese butler who opened the door to us.

"Welcome, Mr. Oreste," he said. "We have all been looking for you."

"Thank you, Ah-So," said Oreste. "Will you please see that my people are taken care of?"

"Mr. William has it all arranged," the Chinese answered and we followed him into the cool drawing room, its blinds of bamboo slats drawn against the

late-afternoon sun at the west end of the chamber.

The amenities of family reunion were cordial but quiet, and William had asked his inevitable question; but Oreste said, "I do hope you will forgive me, old man, but I have my own, which I prefer and which I always carry with me. The doctor's orders, you know."

"Of course," said William.

Oreste went out into the hall, where his servants had been left sitting, and the Negress at once opened for him one of the suitcases she had been carrying, revealing elaborate fittings designed to take care of a dozen or so bottles of whiskey. From these Oreste selected one and brought it back into the drawing room.

"Now then," he said, when we were all settled in our chairs, "I should like my novel back."

"Oh, Oreste!" cried Elizabeth, reproachfully and sadly.

"My dear chap!" said William. "You must realize that we know nothing at all about this affair. We've been through it all before."

"You sent my poems to *The Criterion*, I believe," said Oreste.

"I sent a few of my son's writings to them, of course," said William "and the editors there were good enough to publish them."

"Those were *my* poems," said Oreste.

"Oreste," said Elizabeth, "don't

you think that until after you've rested from your journey up the mountain it would be better to—"

"I am completely rested," protested Oreste in exasperation.

At this point, we suffered an interruption. Valerian, the older boy, entered the room.

"Uncle Oreste!" he cried as he came through the entrance; and then he ran across the room and threw himself on Oreste. "Are those *your* marvelous birds out in the hall?"

"Birds?" asked William. "Did you bring birds?"

"Valerian, my dear," said Elizabeth. "Say hello to your Uncle Oreste and then run and play with Titus for an hour before dinner."

"I very much want to see Titus," said Oreste.

"Not now, Oreste," said Elizabeth. "This is their time to play. Perhaps at dinner. Run now, my dearest, and take Titus out to play."

"Quick, son," said William, snapping his fingers. "You've heard your mother."

Valerian left, then, and we continued our conversation—to no purpose, I might add. But in fifteen minutes Valerian was back again, complaining that Titus was nowhere to be found.

"Did you look everywhere, son?" asked William.

"Everywhere?" Valerian queried, puzzled. "I looked every-

where I could think of, everywhere I thought he might be; but maybe I didn't think of all the places he might be."

"That's entirely possible," said William.

"Did you look in my summer-house?" I interrupted. "He sometimes goes there to write—he sometimes likes to sit there."

"No," said Valerian. "Shall I look there, Father?"

"If he is there," said William, "he is all right, and there's no need to disturb him so long as he's ready for dinner in time."

"What time is dinner, by the way?" asked Oreste. "I've not eaten since last week."

"We dine at seven," said Elizabeth. "They ring the dressing-bell at six-fifteen to give everybody time, so you have over an hour, Oreste, should you feel like a rest. I have always felt that you should eat more often."

"If you will excuse me," said Oreste, "I believe that I *shall* take a short nap."

"Of course," said Elizabeth, extending her arm into the air and snapping her fingers. "Ah-So will show you to your room. I expect your servants are already taken care of, and Ah-So will tell you how to get them if you want them."

"Thank you, Elizabeth," said Oreste. "I shall want my own cook to cook my own dinner. It can be served with the rest. My

special diet, as you know."

"Whatever you wish," said Elizabeth.

I did not remain for dinner, though they begged me, but walked back immediately at my place, returning via the lower pasture so as to pass near to my summerhouse.

Titus himself was not there, though I saw evidence of his recent presence. The ink bottle on the writing table was unstoppered, blotters and pens were lying about, and smudged sheets of writing paper were scattered around the floor. I surveyed the scene with what, two days ago, would have been an amused, slightly patronizing wonder, but was now apprehension that the creative furies of this child should be so inexorably leading him into an impossible contretemps. I sank down into my favorite chair, but it felt wrong, and I probed, therefore, beneath the cushion and withdrew the box containing Titus's manuscript—the one he had been writing on when I had intercepted him previously. I took off the lid and removed the large pack of paper—and was on the point of leafing through it when I was startled nearly out of my seat by a cry from the half-closed door to the bathroom.

Titus burst forth. "Don't!" he screamed, throwing himself at me. "Don't read it yet! It's not finished yet!"

"Very well," I calmed him. "If

you don't want me to, I shan't. I was just curious to know what was under my cushion. I was sitting on it, you see."

"I hid it there because I didn't know who was walking up the path. I'm trying to get it finished," he informed me, "before I am stopped."

"Before you are stopped?"

"I am going to be stopped," he assured me, very positively, staring at me fixedly with a preternaturally grave expression. "I don't really know who's going to stop me, but I think it must be Uncle Oreste. I just have a feeling in my bones that he's going to stop me."

"Have you seen your Uncle Oreste yet?"

"Then he is here!" exclaimed Titus, looking around him in fear. "I knew it! I felt it!"

"He came about an hour ago. He's up the mountain at your house now, resting before dinner."

Poor little Titus, at this intelligence, gave such signs of fear that my heart went somewhat out to him, in pity.

"Would you like to take dinner with me this evening?" I asked him, my defenses down. "I dine at eight here."

"Oh, *may* I?" He seemed immeasurably relieved by my invitation. "But how shall I let my parents know?"

"In a little while I shall walk up to their house and leave a mes-

sage with the servants. I imagine," I added a bit grimly, "that your parents will present no objections."

"Oh, fine," he said. "Then I shall be able to work on my story until dinnertime. I have only a little way to go. . . . I expect," he added, "that under the circumstances you'll let me sit down without changing?"

"Of course," I said, "provided you have a good wash first."

"Of course," he said.

I left him, then, and retired into my library, where I wrote several letters; and then I walked up the mountain to Elizabeth's and William's again and left my message at the back door, feeling like the bootlegger.

Altogether, it had been an hour since I left Titus working furiously at Oreste's novel on the writing table in my summerhouse. By the time I should have arrived back from my trip up the mountain, it would be close on eight o'clock, and, although there was still time, I decided, in view of the circumstances, to forego changing for dinner.

I had just made this decision, halfway across my lower pasture, when I was forced to quicken my steps: for I was suddenly and inexplicably assailed by a certain knowledge that my presence was required in the summerhouse. Whether this impulse resulted from my having heard any sounds,

I cannot say; although it is, of course, possible that the sounds of their argument reached me even there in the pasture.

At a rapid pace, then—though I am no longer athletically inclined—I covered the remaining distance across my grounds to the summerhouse and flung open the door.

In the center of the room, separated from each other by my writing table, were Titus and Oreste, the latter with murder in his eye and a long, thick, sharp, cork-handled needle in his hand. They were screaming intemperately at each other, and my appearance in the door did not serve in the least to inhibit them in this display. I gathered that Oreste had been threatening Titus with the needle, the like of which I had never seen before.

"You are supposed to be resting before dinner," I admonished Oreste, although it was none of my affair.

"Don't let him touch me!" cried Titus at the same time.

"Little fiend!" breathed Oreste, feinting towards one end of my writing table.

"Oreste!" I spoke to him sharply. "Let the boy alone! Nothing is to be gained by this kind of ill-considered behavior!"

"Nothing!" cried Oreste. "Nothing? What do you call nothing? Look at that!" He pointed to the pages of manuscript scattered

about the top of the writing table, where he had interrupted Titus's work. "My book! This little fiend is writing my book!"

"I'm not a fiend!" cried Titus. "I'm not! It's my book! He's just trying to take my book away from me. I wish you'd go away! I hate you! You're drunk!"

"Out of the mouths of babes and sucklings," said Oreste to me, shrugging. He was calmer now.

"Can we not," I suggested, sensing this, "talk the matter over seriously tomorrow morning, when we've all had a good night's sleep? There is surely some explanation, some satisfactory way to get this affair straightened out without resort to—violence!"

Again Oreste shrugged. "I've explained everything already. You know what's going on. I see no purpose in talking any more about it. What we need now is something to be *done*. However, if you—"

"Fine," I said. "Then it's all arranged, isn't it? Let us say breakfast at eight-thirty, shall we?"

"Eight-thirty," repeated Oreste, as if he had no intention of remembering.

"Titus is staying here tonight," I said. "Will you be good enough to tell his mother?"

"Here?" exclaimed Oreste.

"It would be preferable to any other arrangement," I said firmly.

"As you like," said Oreste. "I'll tell the mother." He left.

Dinner with Titus was unremarkable. He skillfully and resolutely kept the conversation away from the things I wanted to talk about; and afterwards there was nothing to do but show him to his room. It was one of my guest rooms, connected by a bath with another; and in the other, I explained to Titus, I planned to sleep myself that night, in case he should want me near him.

"I'll be all right," he said, however. "I have only a few hours work left to do on my book and then Uncle Oreste may say what he likes."

"Don't be too late," I admonished him. After all, he was only eight.

I sat up until midnight over my studies and then made the rounds of the house to make sure they had locked everything securely. Finding nothing amiss, I went to bed and slept soundly till morning. Neither Oreste nor Titus came to breakfast, as we had arranged, which rather put me out since I had ordered the meal prepared for three.

Later in the morning I walked up the mountainside to the house of Elizabeth and William. William was at his studies and could not be disturbed, but Elizabeth gave me a few minutes.

"It was so good of you to keep Titus," she said. "I don't suppose we could prevail on you to keep him longer, until all this—" She

waved her hand, in a gesture perfectly describing the situation.

"Of course, my dear Elizabeth," I said. "It is absolutely no inconvenience. But I do think, don't you, that we ought to get some of these things straightened out as soon as possible. I had hoped, as a matter of fact, to see Oreste this morning," I explained.

"Oreste has left word that he is not to be disturbed," she told me. "He has started some new piece of writing which he is eager to finish as soon as possible." Then: "Tell me, did Titus finish his book last night at your house? He is so anxious to complete it."

"Yes," I said to her. "He mentioned as I was leaving that it was now completely finished."

"Oh, good!" she said. "Both William and I were so afraid something might intervene."

For the next three days Oreste remained closeted with his new work, and meals were taken to him on a tray and set outside his door, which he opened periodically to receive them.

On the fourth day he appeared in the late afternoon as Elizabeth, William, and I sat over our drinks in the darkened drawing room.

"This time," he announced to us, taking his seat after having poured himself a stiff drink out of his own bottle, "I have written something the little fiend is going to find it damn difficult to steal."

"You used invisible ink?" Wil-

liam asked, with an edge to his tone.

"That," said Oreste, "is for me to know and for you to find out." To me he said: "You may tell Titus, if you wish, that I am now no longer interested in my novel, having just done something *much* better. I understand that you are keeping him out of my way."

"Not at all," I said. "I find him very pleasant company."

I am afraid that I fell all too unsuspecting into Oreste's trap, for that evening, at dinner, I mentioned to Titus that he need have no more misgivings about his novel, since Oreste disclaimed any more interest in it, having written something else.

"Yes, I know," said Titus.

"You know!" I exclaimed. "What do you know?"

"I know that Uncle Oreste has written something else," he replied in a flat voice. "That's all."

"How do you know that?"

"Well, after all," said Titus, in more animated tones, "he has been locked up in his room these past four days, writing like a madman. Valerian told me."

I asked, half under my breath, "That is how you found out?"

"Yes," replied Titus; but his eyes fell to his plate as he said it. I noticed that he had hardly touched his bouillabaisse.

"Eat your bouillabaisse," I told him, "and listen to me carefully."

"All right," he said.



"Tell me," I continued, then: "Do you know *what* your Uncle Oreste has been writing?"

He lifted a spoonful of bouillabaisse to his mouth, but, after a moment's hesitation, returned it again to the plate. He did not reply.

"Look here," I said, permitting myself almost to shout at him. "I'm trying to help you. Why do you think I am keeping you here with me, if not to protect you from your uncle?"

"Thank you," he said. "I've known all along, of course, why you were letting me stay here. You're only trying to do your best."

I gulped.

"And it *did* give me a chance to finish my book," he added politely.

This presented me the opportunity I had been awaiting.

"Oreste says it is not your book," I said.

"That's what he says," replied Titus. "But he doesn't know anything about it."

"He seems pretty sure of himself," I insisted.

"My uncle is crazy," said Titus quietly. "I just write whatever comes into my head. He's got nothing to do with it. I don't care what he says."

"How do these stories 'come into your head,' as you put it?" I asked.

"I don't know," Titus replied. "They just come into my head. How do stories come into any-

one's head? It's just as if they were there in my head, waiting for me, and all I have to do is write them down. It's really not much trouble. I suppose," he added, "that all writers have this experience."

"Not quite all," I said.

"Anyway," continued Titus, "that's how it is with me."

"Do you understand everything you are thus in a position, as it were, to write down?" I asked him.

"Not everything," he replied; "but what writer does? My father says he can name dozens of writers who he is sure have not understood a word they have written."

I left him, then, in the care of my housekeeper, with instructions that he be put to bed in my guest room and watched over while he slept; and, ordering my night-lantern brought me, soon afterwards set off up the mountain to call on Elizabeth, William, and Oreste.

I found them in Elizabeth's sewing room. Elizabeth was reading, or pretending to read; and William was crocheting an anti-macassar—his usual form of relaxation when distracted: when he had accumulated a sufficiency of them, he would present them to charity. Oreste was thumbing through a large loose-leaf notebook, which I took to be his new manuscript, holding it in his lap where he sat, in a far corner of the room, a glass and a bottle at his

elbow, now and again scribbling in its pages industriously.

"Won't you join our little circle, Oreste?" Elizabeth asked, as I took the chair which William drew up for me.

"I'm busy, thank you," said Oreste.

"I have come rather particularly to talk to all of you," I said as pointedly as I could.

"I have ears," said Oreste. "I can hear you where I'm sitting."

"Do excuse him," Elizabeth whispered to me. "He's been through so much lately."

"I can hear every word you're whispering," said Oreste, not looking up.

"I have been talking to little Titus," I said.

"You could have saved yourself the trouble," said Oreste.

"Now what do you mean by that remark?" asked William sharply.

"I've already explained to you as much as you'll ever understand, Mr. Nosey," said Oreste.

"The boy hasn't the slightest feeling that what he writes is not his own—if, indeed, it actually isn't," I said. "If anything *unto-ward* is taking place, I am perfectly sure he is not consciously aware of it."

"Ho!" said Oreste.

"Ho, yourself!" I could not stop myself from retorting. The sight of him sitting there in his corner—his face the face of an infant,

his baby-blue eyes, devoid of guile, the eyes of an innocent, yet withal conveying the impression of immense age, indeed of antiquity, of aeons of secret knowledge beyond the furthest marches of historical science—filled me with repugnance and apprehension.

I forced myself, however, to leave my chair and to approach the corner where he sat alone with his manuscript. He watched me advance, though he pretended to keep busy, and I therefore contrived to put myself in such a position that, without seeming to make a point of it, I could easily move behind his chair, glance over his shoulder, and take a glimpse of his work: and this, engaging him the while in persiflage, I accomplished.

I could not, of course, manage to see very much. But I was able to stand behind him long enough to take in a few paragraphs of what appeared to be a children's story about cats or kittens; and the notes or corrections which I had imagined him to be making to his manuscript turned out to be several simple and expressive line drawings, scattered across the page, of the creatures in question.

Having seen that much, which in all truth was as much as I could have hoped to see, I resumed my chair with Elizabeth and William.

"See all you wanted to see?" en-

quired Oreste smugly, once I had re-settled myself.

"I really didn't try to look," I lied, "but I could not avoid noticing, as I passed behind your chair, that you appear to have a notable talent, *inter alia*, for drawing cats."

"*Inter alia*," mumbled William.

"Those are the illustrations," said Oreste. "They are for the child's book I have just written."

"Oh, Oreste!" exclaimed Elizabeth eagerly. "So that is what you have been writing! How nice of you to have written a children's book! And in our house, too!"

"I always write in somebody's house," said Oreste, "but it takes more arranging in some houses than in others."

"My dear fellow," said William, "it was no trouble at all for us. Think nothing of it. We understand all about the requirements of authorship in this house." He seemed entirely sincere.

"I'll bet you do," said Oreste, "especially when it comes to children's books."

At this, William pettishly flung his crocheting down and rose to his feet.

"I trust you understand how far you may go, Oreste," he said. He turned to me and bowed. "I must go to bed now," he said to me. "It was very good of you to come up here, but useless, as you see. Pray excuse me."

Elizabeth rose from her chair

also, and, coming to me, laid her hand upon my arm.

"My husband is overwrought," she said. "Possibly we all are. And we *are* trusting our precious little Titus to your care, aren't we?"

"My dear lady," I bowed.

When I reached home, I looked in on Titus. My butler was lying asleep on a rug in the hall before the door of the room where Titus slumbered, but—faithful retainer that he was—awoke like a cat at my first soft footfall in the corridor. I was gratified to note that he appeared to be well-armed—and that little Titus, in the room, slept peacefully. The night passed uneventfully.

The next morning, Titus and I were served breakfast on my roof, which commanded a splendid view of the mountainside and of the chasm which fell away abruptly from the plateau on which we were situated.

"Today," Titus announced over the fresh figs with cream that the servant had placed before us, "I am starting on a new story, if you are not going to be using your summerhouse."

"A new one!" I exclaimed. "But you have just finished one!"

"I know," said Titus. "I should have preferred to rest awhile between them. Most writers do, you know. But this one will be relatively easy, I think. It just came to me during the night."

"What will it be this time?" I asked him, although I believed I knew the answer.

"Oh, just a little thing—a children's story, really. And that ought to be very easy for me, you see, because I am really still a child. I should think other children would be interested in it for that reason."

I felt the chill clutch of horror at my heart.

"Titus, Titus," I cried. "Please don't write any more just now. Wait just a little before you start your new story. Let me take you with me to the city today, instead, and possibly you can write your story after we return. You don't want to 'write yourself out,' as they say, and besides—who knows?—your story may turn out all the better if you give it time to set, so to speak, before you begin writing it."

Titus gave me a rather supercilious smile. "I can see that you don't know very much about writers," he said. "When writers have something they are very much interested in writing, they don't really want to bother with trips to the city."

"I suppose not," I said, realizing that possibly I was faced with the real thing. "I daresay if you must write, you must: but do promise me you won't go wandering off. I should really prefer you to work in my study today, I think, for I had rather planned on

using the summerhouse myself."

"I can work anywhere," the child replied.

Later, I gave orders to my servants to keep the study door in sight as they went about their household tasks, while I myself sat in my summerhouse all morning and reflected on this affair.

I met Titus again over luncheon and asked him how his work was progressing.

"Oh, splendidly, thank you," he replied; "though writing is tiring, don't you think? I really believe that if one were a professional writer, one should get a secretary and dictate. That's what I'm going to do when I grow up."

"It flows so easily, then?"

"Oh, yes," he said. "One word right after the other."

He paused at this point and wrinkled his brow. "There is one thing, though," he said, after a moment.

"What is that?" I asked.

He seemed embarrassed. "I don't seem to see the end of this story."

"You mean you don't know how to end it?"

"That's right," he said. "I've got it up to the point where the children hear the cats talking to each other, but no one can understand what they are saying."

"What cats are those?" I asked him sharply.

"The cats in my story," he said. "But I've forgotten—you must for-

give me: you don't know about these cats."

"No," I said, wondering how much I didn't know: "no, I don't know about them. Would you like to tell me more about them?"

"Well," he said, "these are the cats that live down there in the chasm. There are a lot of caves in the wall of the chasm, out of sight from the top. The cats have lived down there so long, cut off from the society of the other cats, that they have forgotten how to speak the cat language. But they have been listening to the people who live up here, and so they have learned to speak like people, you see, just through listening. They spend all their time eavesdropping. Cats are very intelligent."

"These cats must be," I observed.

"All cats are," said Titus.

"Very likely," I said. "I have never given it much thought. But how does this affect your story?"

"I've got to know what the cats are talking about," he answered. "Otherwise, I cannot finish the story, because the ending depends on that."

"Possibly you can think of something after lunch," I said, not knowing what else to say: "if, that is, you intend to continue working after lunch."

"Oh, I shall work after lunch," he assured me. "I wouldn't dream of knocking off in the middle of

something like this. But the matter will require a good deal of thought, and possibly even a bit of research."

"The study is full of reference books," I said. "Help yourself. You will undoubtedly find a good deal on cats, if you look. I think I have T. S. Eliot on cats, and I believe there is an Egyptian book there somewhere."

Titus appeared to be dubious. "I don't think an Egyptian book would help me very much in this case," he said. "I'm not sure, as a matter of fact, that I can find what I want in any reference books, although I am sure you have very good books, naturally. These are such special cats," he smiled, "that I'll probably have to work it out by myself."

"As you wish," I said. "It's your story."

"I'm glad you think so," said Titus. "Do you know if anyone has ever written about talking cats before?"

"Saki," I said, "and possibly Aesop."

"Did they know anything about the subject," the child asked, "or were they just making it up?"

"I don't know," I said. "Writers frequently make things up."

"That's what I cannot do," said Titus. "I never rely on my imagination. I'm always absolutely sure about everything I write—except in this case, of course. That is the only way to be a successful

writer." He paused for a few minutes and sighed. "I don't know *why* I can't go right ahead and finish this story the way I finished all the others. The others weren't half as hard as this one, and yet this is only a children's story. I guess it's because I've never really heard a cat talk." He smiled me a rueful smile.

"Few of us have," I consoled him.

Later that afternoon, I looked in on Titus in my study. I entered without knocking, so as not to disturb him, and so, without meaning to, took him somewhat by surprise; but not so greatly that he was not able to cover a sheet of paper with another and casually slip the two of them beneath the blotter on the writing table. I felt a slight twinge of disappointment that he should not have been more surreptitious than this, and resolved that I would have a look at the paper afterwards, though I now realize that I should have demanded to see it there and then.

"How are things coming?" I asked him.

"Very well, thank you," he replied.

"You have solved the mystery of the talking cats?" I asked.

"Partly," he said. "At least I know *how* to solve it. It has just come to me. I had to think of it myself."

"Yourself?" I asked. "*How* is that? And what *is* the solution?"

"If you don't mind," he replied, "I'd rather not tell you until later."

"But you will tell me?" I asked.

"Oh, yes," he said; "but later."

I left him to his work, then; and, reminding my servants once more not to let the door to the study out of their sight so long as Titus remained within, or to call me immediately should he leave, I repaired once more to my summerhouse, and tried there to take up again those studies which I had increasingly neglected during the course of these events. I put Titus out of my mind until tea-time.

When he had not appeared by five, I went myself to the study to call him; but he was not there.

Alarmed, I rang for my butler and the other servants, and questioned them; but none had seen the child leave the room and they had all assumed that he was still within. The window by the writing table, however, stood open, and he might easily have departed by this means.

His manuscript, also, was nowhere in evidence; but the blotter on the table reminded me of the papers I had observed him (as he thought) concealing, and I confirmed at once my intuition that he had forgotten to remove them. I felt, under the circumstances, that I needed no permission from ~~their~~ author to read them. One of them was blank, but the other was

partly filled with Titus's writing. At the top of the latter was the conclusion to a sentence which had obviously been carried forward from the preceding page. It read. . . .

*. . . . by means of a rope, since it is always easier to eavesdrop on cats from above than from below, owing to the peculiar structure of their eyeballs.*

The rest of the page was filled by one of the drawings I had seen as I stood the night before behind Oreste's chair.

My hand shook perceptibly as I laid the sheet of paper once more on my writing table, and I found myself accepting a glass of brandy from my butler.

I drained it at a swallow, and realized then, of course, that I should have chained the child by the ankle to the table. But how could any of us have known how to behave properly in this affair? I underestimated Titus; but I also underestimated Oreste.

"Quickly!" I said to my butler. "We may be too late as it is!"

But it was Valerian who found the rope, towards evening, lashed around a tree at the very edge of the chasm, its free end dangling into the gorge. With my telescope I was able to locate the body, sprawled grotesquely, on a ledge four hundred feet below. The natives refused to attempt to go after it (though I offered them money),

and only stared at me with dull hostility when I begged them, almost with tears in my eyes, to retrieve the corpse for the sake of the parents, who wanted it. Already the vultures had begun their wheeling and circling.

Later, unable to do more, I wandered, inconsolable, to my summerhouse, thinking there to compose my spirits with the brandy that my butler would soon be bringing me; but I found the summerhouse already occupied by Oreste. He was seated on a hassock before the open grate, burning papers, though it was summer and the weather warm. There was a peculiar odor in the room. I was furious.

"What do you mean burning papers in my grate?" I asked him, wrathfully.

He smiled at me impertinently. "This grate is so handy to the papers," he said.

I gave a start, and reached towards the sheaf of loose manuscript which Oreste was feeding, sheet by sheet, to the flames; but he snatched it beyond my reach.

"And just whose papers do you think you're burning?" I demanded, my voice cracking with anger and with fear.

Oreste looked me squarely in the eye and smiled evilly.

"Titus's," he answered "and mine. But we won't be needing them any more, thank you." ◀

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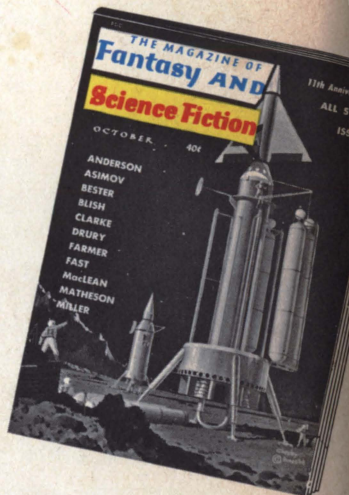


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